

L Number	Hits	Search Text	DB	Time stamp
1	165542	(polyacrylamide or polyacrylate or polymethacrylate) same3 (chelant or chelat\$5) same3 heavy adj metal	USPAT; US-PGPUB	2003/07/30 09:23
2	2100	(polyacrylamide or polyacrylate or polymethacrylate) and (chelant or chelat\$5) and heavy adj metal	USPAT; US-PGPUB	2003/07/30 09:31
3	844	((polyacrylamide or polyacrylate or polymethacrylate) and (chelant or chelat\$5) and heavy adj metal) and (contaminat\$4 or decontaminat\$4)	USPAT; US-PGPUB	2003/07/30 09:24
4	849	((polyacrylamide or polyacrylate or polymethacrylate) and (chelant or chelat\$5) and heavy adj metal) and (contaminat\$4 or decontaminat\$4)	USPAT; US-PGPUB	2003/07/30 09:31
5	2	((polyacrylamide or polyacrylate or polymethacrylate) and (chelant or chelat\$5) and heavy adj metal) and (contaminat\$4 or decontaminat\$4)) and 405/\$.ccls.	USPAT; US-PGPUB	2003/07/30 09:30
6	1173	(polyacrylamide or polyacrylate or polymethacrylate) same (contaminat\$4 or decontaminat\$4)	USPAT; US-PGPUB	2003/07/30 09:39
7	18	((polyacrylamide or polyacrylate or polymethacrylate) and (chelant or chelat\$5) and heavy adj metal) and (contaminat\$4 or decontaminat\$4)) and ((polyacrylamide or polyacrylate or polymethacrylate) same (contaminat\$4 or decontaminat\$4))	USPAT; US-PGPUB	2003/07/30 09:27
8	1	((polyacrylamide or polyacrylate or polymethacrylate) and (chelant or chelat\$5) and heavy adj metal) and (contaminat\$4 or decontaminat\$4)) and 71/\$.ccls.	USPAT; US-PGPUB	2003/07/30 09:30
9	144	(polyacrylamide or polyacrylate or polymethacrylate) and (flocculant) and heavy adj metal	USPAT; US-PGPUB	2003/07/30 09:31
10	64	((polyacrylamide or polyacrylate or polymethacrylate) and (flocculant) and heavy adj metal) and (contaminat\$4 or decontaminat\$4)	USPAT; US-PGPUB	2003/07/30 09:40
12	148	(( polyacrylate or polymethacrylate) same (contaminat\$4 or decontaminat\$4)) and (contaminat\$4 or decontaminat\$4)	USPAT; US-PGPUB	2003/07/30 09:40
11	148	( polyacrylate or polymethacrylate) same (contaminat\$4 or decontaminat\$4)	USPAT; US-PGPUB	2003/07/30 10:05
13	15	(( polyacrylate or polymethacrylate) same (contaminat\$4 or decontaminat\$4)) and heavy adj metal	USPAT; US-PGPUB	2003/07/30 09:51
14	100	(( polyacrylate or polymethacrylate) same (contaminat\$4 or decontaminat\$4)) and (copper or iron or antimony or chromium or cadmium or bismuth or iron or lead or manganese or nickel or tin or zinc)	USPAT; US-PGPUB	2003/07/30 09:53
19	0	( polyacrylate or polymethacrylate) same (contaminat\$4 or decontaminat\$4) and (heavy adj metal or copper or iron or antimony or chromium or cadmium or bismuth or iron or lead or manganese or nickel or tin or zinc)	EPO; JPO	2003/07/30 10:05

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structures available in REGISTRY  
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added to PHAR  
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NEWS 20 May 19 RAPRA enhanced with new search field, simultaneous left and  
right truncation  
NEWS 21 Jun 06 Simultaneous left and right truncation added to CBNB  
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NEWS 23 Jun 20 2003 edition of the FSTA Thesaurus is now available  
NEWS 24 Jun 25 HSDB has been reloaded  
NEWS 25 Jul 16 Data from 1960-1976 added to RDISCLOSURE  
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NEWS 27 Jul 21 Polymer class term count added to REGISTRY  
NEWS 28 Jul 22 INPADOC: Basic index (/BI) enhanced; Simultaneous Left and  
Right Truncation available  
  
NEWS EXPRESS April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT  
MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),  
AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003  
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L2 77 DUP REM L1 (25 DUPLICATES REMOVED)

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L2 ANSWER 1 OF 77 FROSTI COPYRIGHT 2003 LFRA on STN  
AN 614934 FROSTI

TI Intelligent packaging systems for freshness and taste.

AU Mautes P.

SO Meat Processing Global, 2003, (May-June), 37-38 (0 ref.)  
ISSN: 1534-2360

DT Journal

LA English

AB Intelligent packaging systems for freshness and taste are discussed. Innovative packaging may prolong maximum shelf life, retain the original quality of the product and allow wider production of foods with no additives. Intelligent food packaging may incorporate certain desirable additives that may be passed to food products during storage whilst removing undesirable oxygen or water vapour. Powdered iron salts incorporated between two layers of film absorb oxygen and prevent interaction with, for example, meat products, whilst silica gel, polyacrylates and starch polymers may be used to absorb drip loss from meats and so prevent rapid spoilage. Packaging materials may also have integrated protection from light: consumers may still see the products but these are protected over the critical wavelength range by for example chlorophyllous film. Other innovative developments include systems to detect spoilage agents and time/temperature indicators that indicate any breakage in the cold chain. The latter are based on time- and temperature-dependent polymer formation, enzyme activity or colour changes due to exposure to UV. Outer wrapping may protect the food from contamination whilst actively prolonging its freshness, colour, flavour and nutritional value.

L2 ANSWER 2 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2003:134668 PROMT

TI Personal wash additives: here's how to formulate with visual and functional additives.

AU Gupta, Shyam

SO Household & Personal Products Industry, (Sept 2002) Vol. 39, No. 9, pp.

57(4).

ISSN: ISSN: 0090-8878.

PB Rodman Publications, Inc.  
DT Newsletter  
LA English  
WC 2653

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Many of today's popular personal wash products include visually appealing and functional additives. But development of these products presents challenges that are unique to each specialty ingredient utilized and their targeted functional attributes. The conceptualization of formulation strategy and selection of most appropriate specialty ingredients for optimal delivery of targeted visual and performance attributes of a new consumer product require a disciplined approach. A harmonious blend of the formulator's skills, artful science, regulatory compliance, a competitive edge, cultural aspects and consumer politics are all required for the development of successful products. These activities also need to be superimposed with time and cost constraints.

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Subscription: \$48.00 per year. Published monthly. 17 S. Franklin Turnpike, Box 555, Ramsey, NJ 07446.

L2 ANSWER 3 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2002:217863 PROMT  
TI Adhesives and sealants: Business on the mend, as new niches open up.  
(Cover Story). (Brief Article) (Statistical Data Included)

AU Schmitt, Bill  
SO Chemical Week, (10 Apr 2002) Vol. 164, No. 15, pp. 18(7).  
ISSN: 0009-272X.

PB Chemical Week Associates  
DT Newsletter  
LA English  
WC 4872

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Adhesives and sealants makers, hurt by depressed demand and squeezed margins last year, say they expect their \$30-billion sector to see modest recovery in the second half of this year. Sales should rise at a 2%/year clip, at least in the U.S., although Europe's uptick will lag by several months. Executives say their regimens of cost-cutting, restructuring, R&D, and pursuit of key growth applications will help their businesses to improve in lieu of a miracle cure.

THIS IS THE FULL TEXT: COPYRIGHT 2002 Chemical Week Associates

Subscription: \$99.00 per year. Published weekly. P.O. Box 7721, Riverton, NJ 08077-9021.

L2 ANSWER 4 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2003:31078 PROMT  
TI Enhancing cleanability: Janos Hajas writes about a new additive which has been introduced to enhance the surface cleaning properties of coatings.  
(additives).

AU Hajas, Janos  
SO PPCJ. Polymers Paint Colour Journal, (Sept 2002) Vol. 192, No. 4456, pp. 16(3).  
ISSN: ISSN: 1357-731X.

PB DMG World Media Ltd.  
DT Newsletter  
LA English  
WC 1365

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB A new, OH-functional silicone modified acrylate additive will be introduced to enhance the surface cleaning properties (cleanability) of

coatings. Crosslinkable via OH-groups, the additive provides long lasting significant improvements in cleanability so that adhering dust and dirt particles as well as graffiti can be removed much easier compared to 'normal' surfaces.

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Subscription: 236.00 British pounds per year. Published monthly. Queensway House, 2 Queensway, Redhill, Surrey RH1 1QS., United Kingdom

L2 ANSWER 5 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2002:506148 PROMT

TI Slippery business: the subject of self-cleaning systems is becoming very topical, and in this years' Asia Pacific Coatings Show, BYK-Chemie presented a paper on the subject that was so successful that they were awarded 'Best Conference Paper'. We approached BYK-Chemie and they kindly provided a feature article on the same theme. (Best Conference Paper). (properties of new BYK-Silclean 3700 paint additive)

AU Woocker, Axel; Weber, Brigitte

SO Asia Pacific Coatings Journal, (August 2002) Vol. 15, No. 4, pp. S2(3).  
ISSN: ISSN: 1468-1412.

PB DMG World Media Ltd.

DT Newsletter

LA English

WC 1641

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Ever since the publications of the studies of Professor Barthlott--decan of the Botanic Institute in Bonn (Germany)--about the so-called self cleaning effect of the Lotus plant, the term 'Lotus Effect' has become a buzzword in the industry.

THIS IS THE FULL TEXT: COPYRIGHT 2002 DMG World Media Ltd.

Subscription: 106.00 British pounds per year. Published quarterly.  
Queensway House, 2 Queensway, Redhill, Surrey RH1 1QS., United Kingdom

L2 ANSWER 6 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:172256 CAPLUS

DN 136:206739

TI Material for constructing structures protecting against radiation, resulting structures protecting against radiation and method for making same

IN Lemer, Pierre-marie

PA Lemer Pax, Fr.

SO PCT Int. Appl., 14 pp.

CODEN: PIXXD2

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002019345	A1	20020307	WO 2001-FR2729	20010903
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	FR 2813702	A1	20020308	FR 2000-11371	20000901
	FR 2813702	B1	20021220		
	AU 2001087803	A5	20020313	AU 2001-87803	20010903
PRAI	FR 2000-11371	A	20000901		
	WO 2001-FR2729	W	20010903		
AB	The invention concerns a material designed to construct rigid and				

resistant structures protecting against radiation used in particular in the medical field to protect operators against **contamination** and exposure to radiation (X-rays in radiol., radioactive products in nuclear medicine ). Said construction material is in the form of a complex of at least two stacked plates, one made of **lead** and the other of resin (Me **polymethacrylate**, polyester resin, epoxy resin ) contg. a filler adapted to enhance its mech. resistance properties, said plates being prep'd. beforehand independently of each other and being bonded together.

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 7 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN  
AN 2002:778755 CAPLUS  
DN 137:283586  
TI Process for disposing of liquids containing solid residue  
IN Atkins, Don C.; Bortz, Steven H.  
PA USA  
SO U.S. Pat. Appl. Publ., 4 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002147378	A1	20021010	US 2001-829204	20010409
PRAI	US 2001-829204		20010409		

AB A process for disposing of solvent-contg. liqs. so that they do not **contaminate** groundwater. The process includes the steps of transferring the waste solvent-contg. liq. to a container and adding sufficient water so that the solvent-contg. liq. has about 50% water content. Next, an absorbent blend is mixed into the liq. at the rate of about 1 lb. of blend per gal of liq. The blend is made up of a swellable polymer, consisting of **polyacrylamide/polyacrylate** copolymer salt or a 2-propenamide-co-2-propenoic acid homopolymer salt which swells and absorbs liq. The blend also contains a mixt. of solid absorbents selected from calcium oxides, aluminum oxides, calcium sulfate, silicon oxides, pumice, perlite, activated carbon, surfactant, and ground corn cobs. The resulting mixt. is stirred in the container until it becomes thick and then it is allowed to set to provide a disposable modeling clay-like solid. The resulting solid material, after curing, may be then simply added to solid trash, and thus, be freed from **contaminating** groundwater. The process is esp. useful for disposing of most all cleaning solns.

L2 ANSWER 8 OF 77 CABA COPYRIGHT 2003 CABI on STN  
AN 2002:173480 CABA  
DN 20023135254  
TI Evaluating the potential efficacy of three antifungal sealants of duct liner and galvanized steel as used in HVAC systems  
AU Foarde, K. K.; Menetrez, M. Y.  
CS Center for Environmental Technology, RTI, 3040 Cornwallis Road, Research Triangle Park, NC 27709, USA.  
SO Journal of Industrial Microbiology & Biotechnology, (2002) Vol. 29, No. 1, pp. 38-43. 19 ref.  
ISSN: 1367-5435  
DT Journal  
LA English  
AB Current recommendations for remediation of glassfibre duct materials **contaminated** with fungi specify complete removal, which can be extremely expensive, but in-place duct cleaning may not provide adequate protection from regrowth of fungal **contamination**. Therefore, a common practice in the duct-cleaning industry is the postcleaning use of antifungal surface coatings with the implication that they may contain or limit regrowth. However, even the proper use of these products has

generally been discouraged because little research has been conducted on the effectiveness of most products as used in heating, ventilating, and air-conditioning (HVAC) systems. Three different coatings were evaluated on glassfibre duct liner (FGDL). Two of the 3 coatings (a polyacrylate copolymer containing zinc oxide and borates, and an acrylic primer containing a phosphated quaternary amine complex) were able to limit growth of *Aspergillus versicolor* in the 3-month study; the third did not. One of the coatings that was able to limit growth was further evaluated in a comparison of FGDL or galvanized steel (GS) under conditions that mimicked their use in HVAC systems. The results showed that both moderately soiled and heavily soiled uncoated FGDL and GS duct material can support fungal growth (*A. versicolor* and *Penicillium chrysogenum*), but that GS duct material was more readily cleaned. The use of an antifungal coating helped limit, but did not fully contain, regrowth on FGDL. No regrowth was detected on the coated GS.

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AN 2002-0392385 PASCAL  
CP Copyright .COPYRGT. 2002 INIST-CNRS. All rights reserved.  
TIEN Using membrane technology for sticky removal in white water  
AU HAMANN Lutz; BACHNER Kerstin  
CS PTS, Heidenau, Germany, Federal Republic of  
SO ATIP. Association technique de l'industrie papetiere : (1989), (2002),  
56(2), 32-38 [6 p.], 15 refs.  
ISSN: 0997-7554 CODEN: ATIPBH  
DT Journal  
BL Analytic  
CY France  
LA English  
AV INIST-4729, 354000101574450030  
AB As a result of ever higher recycling rates and a progressive shortage of supplies, the use of recovered papers in paper furnishes has lead to rising loads of impurities, i.e. stickies, in stock preparation and paper production processes. The constantly growing economic pressure on recycling mill managers compels them to run their plants to 100%-capacity so that machine downtimes caused by deposits have a big economic impact. Fine dispersed and colloidal dissolved stickies accumulate especially in the white water system of a paper machine. To solve the problems caused by this phenomenon, stickies have to be separated. Membrane filtration is a viable option for removing microstickies from effluents. Convincing motives for its use are the possibility to obtain different purification degrees of treated water, a modular system structure for easy scale-up, low space requirements and low energy consumption. The objectives of this work were to determine the efficiency and feasibility of micro-/ultrafiltration to treat effluents and facilitate their recycling. The use of classic membrane materials is limited owing to higher temperatures and varying pH's as they typically occur during cleaning processes with acids and leaching agents. Instead, ceramics may conveniently be chosen as membrane materials which are characterized by an asymmetrical structure and a defined cut off. Since the sources of contamination in the white water are both adhesives and coating binders, polymer dispersions (especially polyacrylates and polyvinylacetate copolymers) are helpful as model testing substances. These substances were used to estimate the separation potential of membranes with pore sizes of 0.4 .mu.m, 0.2 .mu.m and 0.05 .mu.m. The results show that, depending on experimental conditions (flux, pressure, pore size), membrane filtration of model substances reduces COD levels and particle charges to 1/10 and lower of their original value. The turbidity is minimized from > 1300 down to 0.3 NTU and the total solid content of the permeate is diminished to only 1/4 of the initial value. Adhesives and coating binders show a similar filtration behaviour. Different cleaning procedures were tested. First attempts were made in testing "real" whitewater and whitewater + additional (Polymin SK) after pressurized filtration.

L2 ANSWER 10 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN  
AN 2002:423316 CAPLUS  
DN 137:26760  
TI Spot fine cleaning and in situ purity measuring technology for microtechnical components (part II)  
AU Beer, Thomas; Fessmann, Jurgen  
CS Fachhochschule Esslingen, Esslingen, Germany  
SO Metalloberflaeche (2002), 56(4), 19-22  
CODEN: MOFEAV; ISSN: 0026-0797  
PB Carl Hanser Verlag  
DT Journal  
LA German  
AB The effect of spot cleaning of printed boards with atm. plasma was measured by various methods and the results are compared with those of a pull test (pull off of a Au wire). A polymethacrylate layer was used as model contamination on a Ni/Au-coated board. The bonding strength of the Au wire was deteriorated even by a thin (.gtoreq.3 nm) org. layer. Such thin films can be detected by ellipsometry. IR microscopy with glancing incidence is only suitable to detect relatively coarse contaminations of at least 20-50 nm thickness. However, none of the tested methods (AFM and photoelectron spectroscopy were also tested) can be proposed for a sufficiently sensitive inline measuring technique. Care has to be taken to avoid diffusion of Ni into the thin superficial Au layer during plasma cleaning, which would also worsen the bonding strength.

L2 ANSWER 11 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2001:940730 PROMT  
TI Glossary of Liquid-Phase Separation Terms.  
AU Majors, Ronald E.; Carr, Peter W.  
SO LC-GC North America, (Feb 2001) Vol. 19, No. 2, pp. 124.  
ISSN: ISSN: 1527-5949.  
PB Advanstar Communications, Inc.  
DT Newsletter  
LA English  
WC 19060

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB This month's "Column Watch" column is an extensive glossary of definitions and terms used in the liquid-phase separation techniques of high performance liquid chromatography, capillary electrophoresis, and capillary electrochromatography. The glossary should be useful to those just starting to use these separation techniques and can serve as a refresher for long-time users. It provides some of the newer nomenclature recommended by the International Union of Pure and Applied Chemistry.

L2 ANSWER 12 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2001:488409 PROMT  
TI Classifications of fluid systems.  
SO World Oil, (June 2001) Vol. 222, No. 6, pp. 85.  
ISSN: 0043-8790.  
PB Gulf Publishing Co.  
DT Newsletter  
LA English  
WC 46356

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Descriptions of fluid-system classifications, product functions and source companies are listed on these pages. System descriptions and product definitions have been kept as simple as possible and, wherever practical, reflect general industry practice and terminology consistent with descriptions adopted by the American Petroleum Institute (API) and the International Association of Drilling Contractors (IADC).

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L2 ANSWER 13 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2002:87877 PROMT

TI ANTEC 2001 Roundup. (Terence J. Browitt named president of the Society of Plastics Engineers) (Brief Article)

SO Plastics Engineering, (July 2001) Vol. 57, No. 7, pp. 48(48). ISSN: 0091-9578.

PB Society of Plastics Engineers, Inc.

DT Newsletter

LA English

WC 32090

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Terence J. Browitt Ascends to Presidency of SPE at ANTEC 2001 in Dallas, Texas

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Subscription: \$50.00 per year. Published monthly. 14 Fairfield Drive, P.O. Box 0403, Brookfield, CT 06804-0403.

L2 ANSWER 14 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2002:87693 PROMT

TI Introducing 10 ideas for improved production: Phil Green has seen a variety of good and bad working practice during nearly 20 years as a consultant to paint manufacturers. In this month's APCJ, he shares his top 10 tips for more efficient and profitable production. (Top Tips).

AU Green, Phil

SO Asia Pacific Coatings Journal, (Oct 2001) Vol. 14, No. 5, pp. 8(3). ISSN: 1468-1412.

PB DMG World Media Ltd.

DT Newsletter

LA English

WC 2542

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Around the world, much time is spent by water-based coatings technologists in making their products as cost and property effective as possible. Unfortunately, bitter experience shows that this is only really solving half the problem. If these products can not be made as quickly, reproducibly and cost effectively as possible on a bulk scale (1000-50,000 litres), then even the best product will never make the desired impact.

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Subscription: 106.00 British pounds per year. Published quarterly. Queensway House, 2 Queensway, Redhill, Surrey RH1 1QS., United Kingdom

L2 ANSWER 15 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2001:240526 PROMT

TI Supplier Listing (I - Z). (Brief Article)

SO Modern Plastics, (15 Feb 2001) . ISSN: 0026-8275.

PB Chemical Week Associates

DT Newsletter

LA English

WC 72341

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB I

THIS IS THE FULL TEXT: COPYRIGHT 2001 Chemical Week Associates

Subscription: \$41.75 per year. Published monthly.

L2 ANSWER 16 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1  
AN 2002:360095 CAPLUS  
DN 136:344857  
TI Immobilized and polymer-supported metal chelate complexes for catalytic hydrolysis and **decontamination** of pesticides and chemical warfare nerve agents  
IN Chang, Eddie L.  
PA United States Dept. of the Navy, USA  
SO U. S. Pat. Appl., 36 pp., Avail. NTIS Order No. PAT-APPL-9-862 418.  
CODEN: XAXXAV  
DT Patent  
LA English  
FAN CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 862418	A0	20011009	US 2001-862418	20010523
	US 2003054949	A1	20030320		
PRAI	US 2001-862418		20010523		

AB Polymer-supported immobilized metal chelate complexes are synthesized and used as reagents for the adsorption and catalytic hydrolysis of phosphorus-contg. esters, esp. phosphates, phosphorofluoridates, phosphonates, and phosphorothionates typically encountered as chem. warfare nerve agents and pesticides. These immobilized metal chelate complexes can be in the form of polymers, micelles, liposomes, phospholipids, tubules, and other self-organized assocns. The polymers can be prep'd. in the presence of a target compd. so that the active sites can be molecularly imprinted for better selectivity. Such polymers, which are typically functionalized polyurethanes, acrylates, and vinyl polymers contg. ligand groups, can efficiently **decontaminate** the above phosphorus-contg. esters (e.g., methylparathion and 4-nitrophenyl phosphate) in a practical and cost-effective manner.

L2 ANSWER 17 OF 77 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved.  
(2003) on STN DUPLICATE 2  
AN 2002:11652 AGRICOLA  
DN IND23249341  
TI Remediation of sandy soil artificially **contaminated** with **cadmium** using a **polyacrylate** polymer.  
AU Lindim, C.; Varennes, A. de.; Torres, M.O.; Mota, A.M.  
AV DNAL (S590.C63)  
SO Communications in soil science and plant analysis, 2001. Vol. 32, No. 9/10. p. 1567-1574  
Publisher: Monticello, N.Y. : Marcel Dekker Inc.  
CODEN: CSOSA2; ISSN: 0010-3624  
NTE Includes references  
CY New York (State); United States  
DT Article  
FS U.S. Imprints not USDA, Experiment or Extension  
LA English  
AB Soil pollution with toxic metals has become an important social and environmental challenge. When the polluted area is large and the site poses little immediate risk to health or environment, *in situ* remediation technologies can be envisaged. Here we used a **polyacrylate** polymer to immobilize **cadmium** (Cd) in a sandy soil artificially **contaminated** with the metal. Growth of perennial ryegrass in pots with 9.5 kg of soil was stimulated in polymer-amended soil. Even in pots with the highest levels of Cd, growth was much less impaired than in pots without polymer. Shoot Cd concentrations were smaller in the plants cultivated in the amended soil. Because water soluble Cd was considerably reduced in the **contaminated** polymer-amended soil, the effect of the polymer on plant growth was attributed to the decrease of Cd concentration in soil solution.

L2 ANSWER 18 OF 77 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED.  
on STN  
DUPLICATE  
AN 2001-0438690 PASCAL  
CP Copyright .COPYRGT. 2001 INIST-CNRS. All rights reserved.  
TIEN Investigation of the potential antimicrobial efficacy of sealants used in  
HVAC systems  
AU FOARDE K. K.; VANOSDELL D. W.; MENETREZ M. Y.  
CS Center for Engineering and Environmental Sciences, Research Triangle  
Institute, Research Triangle Park, North Carolina, United States; Air  
Pollution Prevention and Control Division, National Risk Management  
Research Laboratory, U.S. Environmental Protection Agency, Research  
Triangle Park, North Carolina, United States  
SO Journal of the Air & Waste Management Association : (1995), (2001),  
51(8), 1219-1226, 22 refs.  
ISSN: 1096-2247  
DT Journal  
BL Analytic  
CY United States  
LA English  
AV INIST-11485, 354000099399100100  
AB Recent experiments confirm field experience that duct cleaning alone may  
not provide adequate protection from regrowth of fungal  
**contamination** on fiberglass duct liner (FGDL). Current  
recommendations for remediation of fungally **contaminated**  
fiberglass duct materials specify complete removal of the materials. But  
removal of **contaminated** materials can be extremely expensive.  
Therefore, a common practice in the duct-cleaning industry is the  
postcleaning use of antimicrobial surface coatings with the implication  
that they may contain or limit regrowth. Little information is available  
on the efficacy of these treatments. This paper describes a study to  
evaluate whether three commercially available antimicrobial coatings,  
placed on a cleaned surface that 1 year previously had been actively  
growing microorganisms, would be able to prevent regrowth. The three  
coatings contained different active antimicrobial compounds. All three of  
the coatings were designed for use on heating, ventilation, and air  
conditioning (HVAC) system components or interior surfaces of lined and  
unlined duct systems. Coating I was a **polyacrylate** copolymer  
containing **zinc** oxide and borates. Coating II was an acrylic  
coating containing decabromodiphenyl oxide and **antimony**  
trioxide. Coating III was an acrylic primer containing a phosphated  
quaternary amine complex. The study included field and laboratory  
assessments. The three treatments were evaluated in an uncontrolled field  
setting in an actual duct system. The laboratory study broadened the  
field study to include a range of humidities under controlled conditions.  
Both static and dynamic chamber laboratory experiments were performed.  
The results showed that two of the three antimicrobial coatings limited  
the regrowth of fungal **contamination**, at least in the short  
term (the 3-month time span of the study); the third did not. Before use  
in the field, testing of the efficacy of antimicrobial coatings under  
realistic use conditions is recommended because antimicrobials have  
different baseline activities and interact differently with the substrate  
that contains them and their local environment.

L2 ANSWER 19 OF 77 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN  
AN 2001:712248 SCISEARCH  
GA The Genuine Article (R) Number: 467AD  
TI Investigation of the potential antimicrobial efficacy of sealants used in  
HVAC systems  
AU Foarde K K (Reprint); VanOsdell D W; Menetrez M Y  
CS Res Triangle Inst, Environm Microbiol Lab Program, 3040 Cornwallis Rd, Res  
Triangle Pk, NC 27709 USA (Reprint); Res Triangle Inst, Environm Microbiol  
Lab Program, Res Triangle Pk, NC 27709 USA; US EPA, Air Pollut Prevent  
Control Div, Res Triangle Pk, NC 27711 USA  
CYA USA  
SO JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION, (AUG 2001) Vol. 51, No..

8, pp. 1219-1226.

Publisher: AIR & WASTE MANAGEMENT ASSOC, ONE GATEWAY CENTER, THIRD FL,  
PITTSBURGH, PA 15222 USA.

ISSN: 1047-3289.

DT Article; Journal.

LA English

REC Reference Count: 22

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

AB Recent experiments confirm field experience that duct cleaning alone may not provide adequate protection from regrowth of fungal **contamination** on fiberglass duct liner (FGDL). Current recommendations for remediation of fungally **contaminated** fiberglass duct materials specify complete removal of the materials. But removal of **contaminated** materials can be extremely expensive. Therefore, a common practice in the duct-cleaning industry is the postcleaning use of antimicrobial surface coatings with the implication that they may contain or limit regrowth.

Little information is available on the efficacy of these treatments. This paper describes a study to evaluate whether three commercially available antimicrobial coatings, placed on a cleaned surface that 1 year previously had been actively growing microorganisms, would be able to prevent regrowth. The three coatings contained different active antimicrobial compounds. All three of the coatings were designed for use on heating, ventilation, and air conditioning (HVAC) system components or interior surfaces of lined and unlined duct systems. Coating I was a **polyacrylate** copolymer containing **zinc** oxide and borates. Coating II was an acrylic coating containing decabromodiphenyl oxide and **antimony** trioxide. Coating III was an acrylic primer containing a phosphated quaternary amine complex.

The study included field and laboratory assessments. The three treatments were evaluated in an uncontrolled field setting in an actual duct system. The laboratory study broadened the field study to include a range of humidities under controlled conditions. Both static and dynamic chamber laboratory experiments were performed. The results showed that two of the three antimicrobial coatings limited the regrowth of fungal **contamination**, at least in the short term (the 3-month time span of the study); the third did not. Before use in the field, testing of the efficacy of antimicrobial coatings under realistic use conditions is recommended because antimicrobials have different baseline activities and interact differently with the substrate that contains them and their local environment.

L2 ANSWER 20 OF 77 JICST-EPlus COPYRIGHT 2003 JST on STN

AN 1011041736 JICST-EPlus

TI Effect of Material Surface Modification for Reducing the Mold Release Force.

AU TSUCHIYA FUMITAKA

CS Nambukasei

SO Nihon Kikai Gakkai Kanto Shibu. Seimitsu Kogakkai Ibaragi Koenkai Koen Ronbunshu, (2001) vol. 2001, pp. 271-272. Journal Code: X0829A (Fig. 5, Ref. 7)

CY Japan

DT Conference; Short Communication

LA Japanese

STA New

AB Recently, the thinning of the plastic product is advanced. However there are any abuses of the formability with it. It is reduced by conducting surface modification to the metallic material, which constitutes metallic cavity, barrel in molding machine, screw. Then, it is possible to improve the resin adhesive strength, and it aims at next fact. That is to say, it is the filling in the low voltage of the melting resin. It is the reduction in the mold release in the mold release force. It is the generation of the **contamination** of the melting resin by the retention adhesion prevention of the melting resin. It is the research of the metal surface reforming for the purpose of these. (author abst.)

L2 ANSWER 21 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 4  
AN 2001:544432 CAPLUS  
DN 135:246662  
TI Industrial solution contaminated by polyacrylates:  
their elimination by electrochemical combustion  
AU Masci, Massimiliano; Chiti, Luciano; De Lorenzo, Antonino; Mantione,  
Davide; De Battisti, Achille; Vatistas, Nicolaos  
CS Dipartimento di Ingegneria Chimica, Universita di Pisa, Pisa, 56126, Italy  
SO Annali di Chimica (Rome, Italy) (2001), 91(3-4), 185-190  
CODEN: ANCRAI; ISSN: 0003-4592  
PB Societa Chimica Italiana  
DT Journal  
LA English  
AB The electrochem. combustion of polyacrylates was studied by  
direct and indirect oxidn. The results indicate no elimination of the  
polyacrylates with the direct oxidn., while the indirect oxidn.  
with NaCl completely eliminated these org. compds. In the last case the  
effects of different initial concns. of NaCl, anode materials and current  
densities were studied.  
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 22 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 5  
AN 2001:166829 CAPLUS  
DN 134:353645  
TI Synthesis of CuII-complexed polymers and use as catalysts in the  
hydrolytic decontamination of sarin nerve agent  
AU Blacker, N. C.; Findlay, P. H.; Sherrington, D. C.  
CS Chemical and Biological Defence Establishment, Salisbury, SP4 0JQ, UK  
SO Polymers for Advanced Technologies (2001), 12(3-4), 183-196  
CODEN: PADTE5; ISSN: 1042-7147  
PB John Wiley & Sons Ltd.  
DT Journal  
LA English  
AB A range of polymer-supported bidentate amine CuII complexes have been  
synthesized based on linear polymers, crosslinked resins and hydrogels as  
precursor species. Linear styrene, acrylate and methacrylate structures  
have been examd. along with reactive crosslinked resins derived from  
vinylbenzyl chloride, glycidyl methacrylate and methacrylic acid  
(Amberlite IRC-50). Hydrogels based on hydroxyethyl methacrylate,  
hydroxyethyl acrylate and hydroxypropyl acrylate, each copolymd. with a  
diamine contg. monomer, have also been prep'd. Each CuII-complexed polymer  
has been assessed as a catalyst in the hydrolytic decomprn. of the nerve  
agent, Sarin, as a possible strategy for developing self-  
decontaminating materials and coatings for both personnel and  
equipment in the event of a nerve agent challenge in the field. Based on  
the measured half-lives for hydrolysis of Sarin all of the polymer CuII  
complexes show remarkable catalytic activity relative to the rate of the  
uncatalyzed hydrolysis reaction. The linear polymethacrylate  
-based catalysts are the most active followed by the linear  
polystyrene-based species, the macroporous polymethacrylates and  
the polystyrene resins. The polymethacrylate hydrogels are the  
least effective. It seems therefore that the hydrophilic/hydrophobic  
balance is important in controlling Sarin access to the catalytic sites,  
and this seems to be optimal in the linear polymethacrylate  
-based catalysts. The results are discussed further in the context of the  
existing literature.  
RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 23 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN  
AN 2000:563960 PROMT  
TI Classifications of fluid systems.

SO World Oil, (June 2000) Vol. 221, No. 6, pp. 87.  
ISSN: 0043-8790.  
PB Gulf Publishing Co.  
DT Newsletter  
LA English  
WC 2390  
\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*  
AB Descriptions of fluid-system classifications, product functions and source companies are listed on these pages. System descriptions and product definitions have been kept as simple as possible and, wherever practical, reflect general industry practice and terminology consistent with descriptions adopted by the American Petroleum Institute (API) and the International Association of Drilling Contractors (IADC).  
THIS IS THE FULL TEXT: COPYRIGHT 2000 Gulf Publishing Co.

Subscription: \$28.00 per year. Published monthly. P.O. Box 2608, Houston, TX 77252-2608. FAX 713-520-4433.

L2 ANSWER 24 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2001:56922 PROMT  
TI NEW ANTI-CORROSION PAINTING TECHNOLOGIES AT THE BEGINNING OF THE 21ST CENTURY.  
AU Almeida, Elisabete  
SO The Journal of Coatings Technology, (Dec 2000) Vol. 72, No. 911, pp. 73.  
ISSN: 0361-8773.  
PB Federation of Societies for Coatings Technology  
DT Newsletter  
LA English  
WC 8930  
\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*  
AB INETI-Instituto Nacional de Engenharia e Tecnologia Industrial [\*]  
THIS IS THE FULL TEXT: COPYRIGHT 2000 Federation of Societies for Coatings Technology

Subscription: \$40.00 per year. Published monthly. 492 Norristown Road, Blue Bell, PA 19422.

L2 ANSWER 25 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2001:18945 PROMT  
TI PRODUCT AND LITERATURE SHOWCASE.  
SO Paint & Coatings Industry, (Dec 2000) Vol. 16, No. 12, pp. 50.  
ISSN: 0884-3848.  
PB Business News Publishing Co.  
DT Newsletter  
LA English  
WC 5012  
\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*  
AB Viscometer  
THIS IS THE FULL TEXT: COPYRIGHT 2000 Business News Publishing Co.

Subscription: \$44.00 per year. Published monthly. 755 West Big Beaver Road, P.O. Box 4270 (48099), Troy, MI 48099.

L2 ANSWER 26 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2000:1090120 PROMT  
TI SKIN TIGHT.  
AU Lucast, Donald H.  
SO Adhesives Age, (Oct 2000) Vol. 43, No. 10, pp. 36.  
ISSN: 0001-821X.  
PB Chemical Week Associates  
DT Newsletter  
LA English

- WC 1854  
\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*  
AB Adhesive considerations for developing stick-to-skin products.  
THIS IS THE FULL TEXT: COPYRIGHT 2000 Chemical Week Associates  
Subscription: \$52.00 per year. Published monthly. 110 William Street, 11th  
Floor, New York, NY 10038.
- L2 ANSWER 27 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN
- AN 2001:56883 PROMT  
TI Guiding Light.  
AU Burga, Ruben  
SO Adhesives Age, (Dec 2000) Vol. 43, No. 12, pp. 34.  
ISSN: 0001-821X.  
PB Chemical Week Associates  
DT Newsletter  
LA English  
WC 3219  
\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*  
AB An overview on the effectiveness of UV/visible light curing in the  
assembly process for precision components.  
THIS IS THE FULL TEXT: COPYRIGHT 2000 Chemical Week Associates  
Subscription: \$52.00 per year. Published monthly. 110 William Street, 11th  
Floor, New York, NY 10038.
- L2 ANSWER 28 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN
- AN 2001:80980 PROMT  
TI Film Maker.  
AU Wulf, Martin; Uhlmann, Petra; Michel, Stefan; Grundke, Karina  
SO Modern Paint and Coatings, (Dec 2000) Vol. 90, No. 12, pp. 21.  
ISSN: 0098-7786.  
PB Chemical Week Associates  
DT Newsletter  
LA English  
WC 2868  
\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*  
AB How leveling additives affect film formation of powder coatings.  
THIS IS THE FULL TEXT: COPYRIGHT 2000 Chemical Week Associates  
Subscription: \$52.00 per year. Published monthly.
- L2 ANSWER 29 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN
- AN 2000:660039 PROMT  
TI Leveling the Playing Field.  
AU Wulf, Martin; Uhlmann, Petra; Michel, Stefan; Grundke, Karina  
SO Modern Paint and Coatings, (June 2000) Vol. 90, No. 6, pp. 16.  
ISSN: 0098-7786.  
PB Chemical Week Associates  
DT Newsletter  
LA English  
WC 2769  
\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*  
AB How leveling additives affect the film formation of powder coatings.  
THIS IS THE FULL TEXT: COPYRIGHT 2000 Chemical Week Associates  
Subscription: \$52.00 per year. Published monthly.
- L2 ANSWER 30 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN
- AN 2000:482054 PROMT  
TI MATERIALS.(Brief Article)  
SO Rubber World, (Spring 2000) Vol. 221, No. 8, pp. 15.  
ISSN: 0035-9572.

PB Lippincott & Peto, Inc.

DT Newsletter

LA English

WC 3787

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB UV/EB curable resins

THIS IS THE FULL TEXT: COPYRIGHT 2000 Lippincott & Peto, Inc.

Subscription: \$29.00 per year. Published monthly. 1867 West Market Street, Akron, OH 44313.

L2 ANSWER 31 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 6  
AN 2000:752074 CAPLUS

DN 133:285816

TI Selective removal of phosphates and chromates from **contaminated** water by ion exchange

IN Sengupta, Arup; Zhao, Dongye

PA Jablonsky, Julius James, USA

SO U.S., 23 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6136199	A	20001024	US 1998-206446	19981207
PRAI	US 1997-69139P	P	19971208		

AB Phosphates and chromates are selectively removed from **contaminated** water by a new class of sorbent, referred to as a Polymeric Ligand Exchanger (PLE). The exchanger bed comprising a styrene-divinylbenzene or **polymethacrylate** matrix having an elec. neutral chelating functional group with nitrogen or oxygen donor atoms, and a Lewis-acid type metal cation, such as **copper**, bonded to the chelating functional group in a manner that the pos. charges of the metal cation are not neutralized. PLEs are very selective toward phosphates and chromates, chem. stable, and also amenable to efficient regeneration.

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 32 OF 77 FROSTI COPYRIGHT 2003 LFRA on STN  
AN 540103 FROSTI

TI Other additives and ingredients (i).

AU Sheftel V.O.

SO Indirect food additives and polymers: migration and toxicology., Published by: Lewis Publishers, Boca Raton, 2000, 1006-1037 (many ref.)  
Sheftel V.O.

ISBN: 1-56670-499-5

NTE REFERENCE ONLY

DT Book Article

LA English

AB Indirect food additives can be defined as constituents (such as plastics and other polymeric materials) from food-contact materials that migrate from the packaging into the food. An overview of polymeric materials, with particular emphasis on toxic effects, migration and regulations, is presented. The following additives and ingredients are outlined: safflower oil; salicylic acid; salicylic acid, methyl ester; sesame oil; shale resins; silicic acid; silicic acid, calcium salt; silicon dioxide; sintamid-5; sintonox 14-19; sodium bisulfate; sodium bromide; sodium fluoride; sodium iodide; sodium nitrate; sodium **polyacrylate**; sorbitan, monooleate; sorbitan, monostearate; starch, 2-hydroxyethyl ether; stearic acid, magnesium salt; succinic anhydride; succinonitrile; sucrose, diacetate hexaisobutyrate; sucrose, octaacetate; sulfanilic acid; sulfonated 9-octadecenoic acid, sodium salt; 4,4-sulfonyldiphenol; sulfosuccinic acid, dihexyl ester, sodium salt; sulfosuccinic acid, 1,4-bis(2-ethylhexyl)ester, sodium salt; sulfuric acid; sulfuric acid,

monododecyl ester, ammonium salt; sulfuric acid, monododecyl ester, sodium salt; sulfuric acid, tin salt; sunflower oil; surfactants; talc; tall oil; tallow; tallow alcohol; terpene resin; tetrachlorophthalic acid; tetrachlorophthalic anhydride; and 1,1,2,3-tetrachloropropene. Where appropriate, data on the following topics are provided: synonyms, properties, applications, toxicity (including acute, long-term and reproductive toxicity, the toxic effects of repeated exposure, mutagenicity and carcinogenicity), chemobiokinetics, regulations and permissible **contamination** levels.

L2 ANSWER 33 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 1999:424800 PROMT  
TI Classifications of fluid systems.  
SO World Oil, (June 1999) Vol. 220, No. 6, pp. 83.  
ISSN: 0043-8790.  
PB Gulf Publishing Company  
DT Newsletter  
LA English  
WC 2431

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Descriptions of fluid-system classifications, product functions and source companies are listed on these pages. System descriptions and product definitions have been kept as simple as possible and, wherever practical, reflect general industry practice and terminology consistent with descriptions adopted by the American Petroleum Institute (API) and the International Association of Drilling Contractors (IADC).

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L2 ANSWER 34 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2001:820943 PROMT  
TI ANTEC '99 WRAPUP.  
SO Plastics Engineering, (July 1999) Vol. 55, No. 7, pp. 40.  
ISSN: 0091-9578.  
PB Society of Plastics Engineers, Inc.  
DT Newsletter  
LA English  
WC 20476

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB William Humphrey Accepts the Challenge of the SPE Presidency for 1999-2000  
THIS IS THE FULL TEXT: COPYRIGHT 1999 Society of Plastics Engineers, Inc.

Subscription: \$50.00 per year. Published monthly. 14 Fairfield Drive, P.O. Box 0403, Brookfield, CT 06804-0403.

L2 ANSWER 35 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2000:161947 PROMT  
TI MATERIALS.  
SO Rubber World, (Fall 1999) Vol. 220, No. 8, pp. 17.  
ISSN: 0035-9572.  
PB Lippincott & Peto, Inc.  
DT Newsletter  
LA English  
WC 3970

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Polyacrylate grades  
THIS IS THE FULL TEXT: COPYRIGHT 1999 Lippincott & Peto, Inc.

Subscription: \$29.00 per year. Published monthly. 1867 West Market Street, Akron, OH 44313.

L2 ANSWER 36 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 2000:452429 PROMT  
TI MATERIALS. (Statistical Data Included)  
SO Rubber World, (Winter 1999) Vol. 221, No. 7, pp. 11.  
ISSN: 0035-9572.

PB Lippincott & Peto, Inc.  
DT Newsletter  
LA English  
WC 3932

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Mold insulating material  
THIS IS THE FULL TEXT: COPYRIGHT 1999 Lippincott & Peto, Inc.

Subscription: \$29.00 per year. Published monthly. 1867 West Market Street, Akron, OH 44313.

L2 ANSWER 37 OF 77 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2003) on STN

DUPLICATE 7

AN 2000:53535 AGRICOLA

DN IND22057565

TI Remediation of a long-term **copper-contaminated** soil using a **polyacrylate** polymer.

AU Varennes, A. de; Torres, M.O.

CS Instituto Superior de Agronomia, Lisboa, Portugal.

AV DNAL (S590.S68)

SO Soil use and management, Dec 1999. Vol. 15, No. 4. p. 230-232  
Publisher: Oxon, UK : CABI International.

CODEN: SUMAEU; ISSN: 0266-0032

NTE Includes references

CY England; United Kingdom

DT Article

FS Non-U.S. Imprint other than FAO

LA English

AB We investigated whether a **polyacrylate** polymer could be used to remediate a soil which had been **contaminated with copper** for many years. Perennial ryegrass was grown in a loamy sand containing 230 mg ammonium-acetate-EDTA extractable Cu kg-1 and amended with 0, 0.1 and 0.2% of polymer. Growth of perennial ryegrass was stimulated in the polymer-amended soil, especially in the soil with 0.1% of polymer. After plant growth for 177 days, the amount of water extractable **copper** present in the unamended soil was 17 times that of the original soil. In the soil amended with 0.1% of polymer the level of **copper** after plant growth was only 0.11 times the amount present in the unamended soil. When the soil was incubated with polymer in the absence of plants, the level of water extractable **copper** was not reduced. The polymer seems to compete with plants for **copper**, and to prevent the increase of **copper** in soil solution brought about by root exudates.

L2 ANSWER 38 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 8

AN 1999:509925 CAPLUS

DN 131:189000

TI Environmental biotechnology feasible biotechnological and bioremediation strategies for serpentine soils and mine spoils

AU Vara Prasad, Majeti Narasimha; De Oliveira Freitas, Helena Maria

CS Dep. Bot., Fac. Ciencias Tecnologia, Univ. Coimbra, Coimbra, 3000, Port.

SO EJB Electronic Journal of Biotechnology [Electronic Publication] (1999), 2(1), 36-50

CODEN: EEBIF6; ISSN: 0717-3458

URL: <http://www.ejb.org/content/vol2/issue1/full/5/5.pdf>

PB Universidad Catolica de Valparaiso

DT Journal; General Review; (online computer file)

LA English  
AB A review with many refs. Reclamation of metalliferous areas is a priority field of biogeochem. of trace elements. Ultramafic outcrops rich in **heavy metals** have been mapped in different parts of the world. **Heavy metals** are potentially cytotoxic, carcinogenic and mutagenic. Environment protection agencies and legislations request the mine operators to restore the mine spoils and tailings since the metal leachates have serious implications in prodn. of healthy agricultural products. Hence, restoration of mine spoils, tailings and metalliferous soils is a challenging tasks for the well being of humans. Synthetic and natural zeolites have been used as chelators for rapid mobility and uptake of metals from **contaminated** soils by plants. Use of synthetic chelators significantly increased Pb and Cd uptake and translocation from roots to shoots facilitating phytoextn. of the metals from low grade ores. Contrastingly, synthetic cross linked **polyacrylates**, hydrogels have protected plant roots from **heavy metals** toxicity and prevented the entry of metals into roots. However, application of these synthetics on large scale may not be a practical soln. due to exorbitant costs. Therefore, introduction of metal tolerant wild plants to metalliferous soils, genetic engineering of plants for enhanced synthesis and exudation of natural chelators into the rhizosphere, improvement of the rhizosphere with the help of mycorrhiza and integrated management of the metalliferous ecosystem following the principles of phytoremediation are discussed in this paper.

RE.CNT 81 THERE ARE 81 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 39 OF 77 CABA COPYRIGHT 2003 CABI on STN  
AN 2003:92424 CABA  
DN 20033063930  
TI Feasible biotechnological and bioremediation strategies for serpentine soils and mine spoils  
AU Prasad, M. N. V.; Oliveira Freitas, H. M. de; de Oliveira Freitas, H. M.  
CS Departamento de Botanica, Faculdade de Ciencias e Tecnologia da Universidade de Coimbra, 3000 Coimbra, Portugal.  
SO EJB, Electronic Journal of Biotechnology, (1999) Vol. 2, No. 1, pp. 1-16.  
many ref.  
Publisher: Universidad Catolica de Valparaiso. Valparaiso  
ISSN: 0717-3458  
CY Chile  
DT Journal  
LA English  
AB Reclamation of metalliferous areas is a priority field of biogeochemistry of trace elements. Ultramafic outcrops rich in **heavy metals** have been mapped in different parts of the world. **Heavy metals** are potentially cytotoxic, carcinogenic and mutagenic. Environment protection agencies and legislations insisting the mine operators to restore the mine spoils and tailings since the metal leachates have serious implications in production of healthy agricultural products. Hence, restoration of mine spoils, tailings and metalliferous soils is a challenging task for the well being of Humans. Synthetic and natural zeolites have been used as chelators for rapid mobility and uptake of metals from **contaminated** soils by plants. Use of synthetic chelators significantly increased Pb and Cd uptake and translocation from roots to shoots facilitating phytoextraction of the metals from low grade ores. Contrastingly, synthetic cross linked **polyacrylates**, hydrogels have protected plant roots from **heavy metals** toxicity and prevented the entry of metals into roots. However, application of these synthetics on large scale may not be a practical solution due to exorbitant costs. Therefore, introduction of metal tolerant wild plants to metalliferous soils, genetic engineering of plants for enhanced synthesis and exudation of natural chelators into the rhizosphere, improvement of the rhizosphere with the help of mycorrhiza and integrated management of the metalliferous ecosystem following the principles of phytoremediation are discussed in this paper.

well as additive relationships, have been only partially defined. In this article, Heiko Juckel discusses the phenomenon of cratering and levelling of powder coatings. The basic physical conditions of levelling effects are described, the chemistry of the current anti-cratering and levelling additives is examined, and the properties of anti-cratering and levelling additives are considered.

A SIMPLE POWDER COATING formulation contains resins, hardener, pigments/extender, and additives. All additives used contribute to the fine adjustment in powder coating systems, either by imparting additional properties to the powder coating (for example, anti-crater effect) or by improving existing properties (for example, scratch resistances). Anti-cratering and levelling additives are of vital importance for a powder coating formulation: powder coatings without levelling additives display not only improper levelling (the well-known 'orange-peel effect'), but also very crater-susceptible surfaces.

The task of anti-cratering and levelling additives is to prevent craters and to optimise levelling effects.

#### Crater formation

Unlike liquid coatings, powder coatings are heterogeneous mixtures raw materials. Localised concentration differences of resins, hardeners and so on are therefore inevitable([1]). During pigmentation, additional selective adsorption processes take place which also contribute to an increased heterogeneity.

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L2 ANSWER 42 OF 77 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved.

(2003) on STN DUPLICATE 9

AN 1999:71481 AGRICOLA

DN IND22004713

TI Remediation of a sandy soil artificially **contaminated** with **copper** using a **polyacrylate** polymer.

AU Torres, M.O.; Varennes, A. de.

CS Instituto Superior de Agronomia, Lisboa, Portugal.

SO Soil use and management, June 1998. Vol. 14, No. 2. p. 106-110  
Publisher: Oxford : CAB International.

CODEN: SUMAEU; ISSN: 0266-0032

NTE Includes references

CY England; United Kingdom

DT Article

FS Non-U.S. Imprint other than FAO

LA English

AB We investigated whether a Na-K **polyacrylate** polymer could be used to remediate a sandy soil artificially **contaminated** with **copper**. An experiment, carried out in solution culture, showed that ionic **copper** was rapidly trapped within the polymer to a maximum content of c. 190 mg Cu g-1 dry polymer, the proportion needed for chelation of each **copper** ion by four carboxylic groups present in the polymer chains. Cu-EDTA was not retained by the polymer. Growth of perennial ryegrass in 10 kg pots was stimulated in the gel amended soil, and even in the pots with the highest levels of **copper**, growth was much less impaired than in pots without polymer. **Copper** concentrations of the shoots were smaller in the plants cultivated in the amended soil. Water extractable **copper** was considerably reduced in the **contaminated** gel-amended soil and polymer particles removed from the soil were shown to contain high levels of **copper**

L2 ANSWER 43 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 97:657781 PROMT

TI Organic polymers taking their share. (Focus: Water Treatment 97)

AU Rosen, Meyer R.

SO Chemical Market Reporter, (13 Oct 1997) Vol. 252, No. 15, pp. PFR13(1).

ISSN: ISSN: 1092-0110.

PB Schnell Publishing Company, Inc.  
DT Newsletter  
LA English  
WC 1379

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Soild growth is projected for organic polymers as they gain ground on the iron and aluminum salts. Also, producers move to blending services and on-site service.

L2 ANSWER 44 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 97:549990 PROMT  
TI Organic Polymers Taking Their Share  
AU ROSEN, MEYER R.  
SO Chemical Market Reporter, (13 Oct 1997) pp. FR13.  
ISSN: 0090-0907.  
LA English  
WC 1379

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Soild growth is projected for organic polymers as they gain ground on the iron and aluminum salts. Also, producers move to blending services and on-site service.

Benefiting from a shift from iron and aluminum in water treatment, organic polymers are showing moderate growth. On a global basis, organic polymers, which function as flocculants, scale inhibitors, dewatering agents and anti-corrosion aids, are projected to grow between 3 and 5 percent annually. Above average growth is projected for the US and Latin America, while Europe is projected to grow at a slower rate. Also, product development is taking on greater importance, as polymer producers face an increasingly competitive market with polymer users and producers seeking to work with fewer suppliers.

In 1997, global demand for organic flocculants in water treatment is valued at \$995 million, up from a 1995 level of \$858.5 million, according to John Goin, principal with Lake View Associates, a Manhattan, Kan.-based consultancy. With average annual growth of 4.7 percent, the market is projected to reach \$1.14 billion by 2000. Some producers point to higher growth rates of between 5 and 7 percent for organic flocculants for the foreseeable future.

Contributing to the overall demand for organic polymers is the growth in biosolids dewatering and in primary clarification as water treatment facilities continue to increase solids loadings, says Paul Marold, business director of water treatment with Cytec.

The US is the leading market for organic flocculants, where demand is expected to increase by an average annual rate of 6.1 percent through 2000. In 1997, demand for organic flocculants is valued at \$380 million and is projected to reach \$450 million by 2000, notes Lake View Associates.

Asia-Pacific is the second largest consumer of organic flocculants, with 1997 demand of \$265 million, according to Lake View Associates, and demand in 2000 is projected to increase to \$280 million. Japan is the largest market with 1997 demand of \$200 million, followed by South Korea at \$30 million.

Although the third largest market, demand for organic flocculants in Europe is slow. In 1997, the market for organic flocculants was valued at \$195 million, with demand projected to increase at an average annual rate of only 2.7 percent through 2000 to reach a value of \$211 million, according to Lake View Associates.

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L2 ANSWER 45 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 97:279993 PROMT  
TI Novel ingredients for smooth skin  
AU Woodruff, John

SO Manufacturing Chemist, (Apr 1997) pp. 27.  
ISSN: 0262-4230.

LA English  
WC 1791

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Over the past few years, the main innovations in active ingredients for skincare have been in the use of [Alpha]-hydroxy acids, ceramides and enhanced delivery systems. Sun protection has been to the fore, and the use of inorganic oxides has stimulated many new formulations. Many natural materials have moved from folklore to proven efficacy, and more compounds of natural origin are introduced than from any other category at conferences and symposia.

The most startling introduction must be the claim by UBC chemist Dr. O. Katoves that he has recently isolated a substance that exhibits remarkable qualities of skin rejuvenation from the excretions of prehistoric flying fish under physical stress. Katoves purified the chemical (thiotimoline) with the help of Dr N. Shutnik of the Lomonosov University, Moscow.

Shutnik studied the fish *Aprilis piscis* extensively, after he thawed a school of them found frozen in a Siberian glacier. They are now being bred in the Caspian state sturgeon farm, where apparently a major European skincare firm has already licensed the technology from UBC and signed Elizabeth Taylor and Joan Collins for its advertising campaign.

Returning to more conventional sources of cosmetic materials, a review of the papers and posters contributed to the 19th IFSCC Congress(1) reveal that UV protection and antiinflammatory responses were considered of major importance. This may be in part because of the location of the Congress, and the many papers and delegates from Japan and Korea. Skin lightening is currently of interest in both hemispheres (Manufacturing Chemist, April 1996). In the East all exposed areas are treated, while in the West, products are more frequently designed for reducing local pigmentation.

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L2 ANSWER 46 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 97:413125 PROMT  
TI High solids hydroxy acrylics with tightly controlled molecular weight  
AU Leeuwen, Ben van  
SO PPCJ. Polymers Paint Colour Journal, (May 1997) pp. 11.  
ISSN: 1357-731X.

LA English  
WC 2117

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB TWO-COMPONENT PRODUCTS fit well into automotive refinish, high performance maintenance, commercial vehicle, marine/offshore and agriculture and construction equipment finishes. The current two package acrylic and polyester aliphatic urethane coating consumption for these markets is estimated to be approximately 180,000 tonnes in Western Europe. One problem that could hold back the growth of these high performance coatings is the current lack of proven lower VOC alternatives that have significant market penetration. Governmental authorities continue to prepare legislation which set solvent emission levels for paints. Automotive refinish paints will be influenced by the upcoming European guideline regulations of 420g/l for both pigmented topcoats (monocoats) as well as the VOC average of colourcoat plus clear topcoat. These VOC limits, due to take effect in 1998, will render 90% of existing refinish paints obsolete. Current and impending legislation in the agriculture and construction equipment (ACE) protective coatings and commercial vehicle market will force down solvent emissions. A massive reformulation and testing efforts must, therefore, take place in a relatively short period. There are not many existing low VOC options. Since most of these applications require ambient or low temperature forced curing, the options to achieve compliance are limited. Powder coatings and radiation cured systems, for example, do not have a significant fit due to the lack of heat and flat, controlled production lines. As VOC reduction pressures intensify, high solids two-pack polyurethanes

will grow in these markets and not simply as an 'interim solution'. High solids coatings have other advantages in addition to reducing solvent emissions. Many high solids solvent borne coatings are also marketed as 'high build', achieving dry film thicknesses of 125-175  $\mu\text{m}$  per coat.

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L2 ANSWER 47 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN  
AN 1997:692726 CAPLUS  
DN 127:320620  
TI Removal of **Copper** from Hydrocarbon Fuels Using Novel Azamacrocyclic Polymers  
AU Puranik, Dhanajay B.; David, Vikram A.; Morris, Robert E.; Chang, Eddie L.  
CS Naval Research Laboratory, Washington, DC, 20375-5348, USA  
SO Energy & Fuels (1997), 11(6), 1311-1312  
CODEN: ENFUEM; ISSN: 0887-0624  
PB American Chemical Society  
DT Journal  
LA English  
AB Novel **polymethacrylates** contg. pendant azamacrocyclic groups, with monomer structure I ( $x = 2, 6, 8$ ), were prep'd. and evaluated as chelating agents for selective removal of Cu contaminants in hydrocarbon fuels (esp. jet fuels). These chelating agents not only remove Cu contaminants to the sub-ppm level, but also do not **contaminate** the fuels that sol. chelating tend to do. Thus, JP-5 (jet fuel) was treated with a polymer with monomer structure I ( $x = 8$ ) to yield a fuel contg. 0.002 ppm Cu (compared with initially 20 ppm Cu).

L2 ANSWER 48 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 10  
AN 1997:692951 CAPLUS  
DN 127:351157  
TI Experimental observation on synergistic germicidal action of microwave and chlorhexidine  
AU Yang, Huaming; Ding, Lanying; Yao, Hongshuang; Li, Rongfen; Wang, Taixing  
CS Acad. Military Medical Scis., Inst. Microbiol. Epidemiol., Beijing, 100071, Peop. Rep. China  
SO Zhongguo Xiaoduxue Zazhi (1997), 14(3), 142-147  
CODEN: ZXZAFO; ISSN: 1001-7658  
PB Zhongguo Xiaoduxue Zazhi Bianjibu  
DT Journal  
LA Chinese  
AB Exptl. observation on synergistic germicidal action of 650 W microwave and chlorhexidine soln. was carried out. Stainless steel disks were artificially **contaminated** with *Staphylococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa*, *Candida albicans*, *Bacillus subtilis* var. *niger* spore, *Bacillus stearothermophilus* spore and HBsAg and put in the center of dressing pack wrapped by **polyacrylate** or in a glass vial (10 mL) contg. chlorhexidine soln., which was put in a plastic box (loading with 400 mL distd. water). The dressing pack and the plastic box were then exposed to microwave radiation. The results showed that after exposure to synergistic action of 650 W microwave and 0.5% chlorhexidine soln. for 5 min, the stainless steel disks in the dressing pack contg. 75% water (proportion of wt.) within the **polyacrylate** wrap or in the chlorhexidine soln. of the glass vial within the plastic box were sterilized. 398 Medical instruments in 4 hospitals were treated with such method and all were found to be sterilized. Treatment with this method for 5 min each time caused slight corrosion of carbon steel and aluminum after a cumulative exposure time of 72 h, while essentially no corrosion occurred in stainless steel and **copper**.

L2 ANSWER 49 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN  
AN 96:673200 PROMT  
TI Additives - an introduction. (Chemical Specialties Spotlight)  
SO The Journal of Coatings Technology, (July 1996) Vol. 68, No. 858, pp. 78(8).

ISSN: ISSN: 0361-8773.

PB Federation of Societies for Coatings Technology  
DT Newsletter  
LA English  
WC 8526

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB There are many raw materials that are used to enhance final coating properties or aid in the successful manufacturing or application of the coating. The proper selection of additives and knowledge of their interaction with other materials is critical to the final coating. This Spotlight focuses on these diverse materials and provides a brief introduction to some of the additives used today. (\*)

L2 ANSWER 50 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 97:70267 PROMT

TI Polymeric levelling additives for powder coatings  
Levelling additives are considered for powder coatings  
SO Paint and Ink International, (Nov 1996) pp. 2.  
ISSN: 0953-9891.

LA English  
WC 1914

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Janos Hajas, Heiko Juckel and Alfred Bubat

Levelling additives are indispensable components of powder coatings formulations. In this work, the levelling properties of powder coating films were defined and characterised - as a function of additive usage level - by laser-optic measurements of surface roughness. Based on the test measurements, additive recommendations for individual applications are provided.

There are two primary prerequisites for optimizing levelling: First, a high surface tension (which is, in order to assure proper substrate wetting, nevertheless lower than the surface tension of the substrate); second, a localized homogeneity of the surface tension at the air interface.

Because of the vast differences between the production of liquid coatings versus powder coatings, the second prerequisite can hardly be fulfilled without levelling additives. The reason for the necessity of levelling additives lies in the fact that powder coatings mixtures always demonstrate a certain localized heterogeneity. Of course, this localized heterogeneity is, in turn, related to the heterogeneity of physical properties such as surface tension.

Powder coatings without levelling additives display not only improper levelling (the well-known 'orange-peel effect'), but also display very crater-susceptible surfaces. Such phenomena can be explained by the film disturbances which are brought about by surface tension differentials within the molten powder coating film. The laws of physics dictate that molten powder coating moieties on the surface must migrate toward areas of higher surface tension. Such migration results in a highly structured, wavy surface (orange-peel effect).

The film formation of powder coatings can be divided into two sequential phases (2,3) - the coalescence phase and the fluid phase (sometimes denoted as the 'flow phase'). Improper levelling originates primarily in the second phase of powder coating film formation - in the fluid phase.

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(UK)

L2 ANSWER 51 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:246901 CAPLUS  
DN 124:281555

TI A study of organic solvent component in the emulsion system for decontamination of polymer-thickened chemical warfare agents

AU Wei, Yen; Wang, Jianguo; Wei, Gu; Tang, Chi-Tai; Wang, Wei; Bartram, Philip W.

CS Dep. Chem., Drexel Univ., Philadelphia, PA, 19104, USA

SO Journal of Dispersion Science and Technology (1996), 17(3), 307-19  
CODEN: JDTEDS; ISSN: 0193-2691  
PB Dekker  
DT Journal  
LA English  
AB The effects of the mixing process and pH on the available chlorine content of the decontaminant calcium hypochlorite (or high-test hypochlorite, HTH) in the org. solvent-HTH-water mixt. have been studied to develop new emulsion systems for the decontamination of polymer-thickened chem. warfare agents. A series of water-sol. and water-insol. org. solvents were investigated. The obsd. temp. increase during the mixing of the water-sol. org. solvents with HTH and water was found to be mostly resulted from the mixing enthalpy of the solvent with water. It can be minimized by using a new mixing procedure. The effectiveness of HTH as the decontaminant was evaluated by monitoring the available chlorine content of the system at various time intervals after mixing. An increase in the basicity of the solvent-HTH-water system generally leads to a higher chlorine content. For the systems with the water-insol. org. solvents, there was neither noticeable increase in temp. during the mixing nor significant loss of the chlorine content.

L2 ANSWER 52 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 95:471295 PROMT  
TI Flow modifiers: a key to developing high quality surface coatings.  
AU Grolitzer, Marilyn A.; Erickson, Dennis E.  
SO The Journal of Coatings Technology, (June 1995) Vol. 67, No. 845, pp. 89(7).

ISSN: ISSN: 0361-8773.

PB Federation of Societies for Coatings Technology  
DT Newsletter  
LA English  
WC 3147

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Surface coatings serve to provide both protection and decorative appeal to a substrate. Surface defects, which detract from the appearance of a coating, also may compromise the integrity of the substrate. For many years, flow modifiers have been formulated into coating systems to enhance film properties by eliminating surface imperfections. In this presentation, we review the basic causes of surface defects and approaches to preventing and overcoming them. The primary focus of the article will be on the role flow modifiers play in the development of high quality surface coatings.

L2 ANSWER 53 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 95:340426 PROMT  
TI EVEN SIMPLE COMPONENTS MUST KEEP UP WITH NEW TECHNOLOGY  
SO Pulp & Paper Canada, (Sep 1995) pp. 21.  
ISSN: 0316-4004.

LA English  
WC 1215

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB GRAEME RODDEN, EDITOR  
WHEN WRITING ABOUT MAINTENANCE one of the benefits is that it is almost impossible to be too mundane. The simplest little item, if neglected, can cause damage worth thousands to machinery and lead to production outages with the potential to cost mills millions. Oil seals are one such small ticket item.

Besides being a necessity for virtually every pump, oil seals are used extensively throughout the paper machine breast, wire, wire return, dandy, couch, press, felt dryer, calender, winder and rewinder rolls. Oil seals are used whenever shafts move and bearings need lubrication.

Simply stated, seals close spaces between stationary and moving parts in machinery. They protect precision-constructed, close fitting ball, sleeve

and roller bearings. They have three main functions.  
Prevent lubricants from escaping;  
Prevent abrasives, corrosive moisture and other contaminants from entering the machine mechanics;  
Seal or separate dissimilar fluids or gases.  
Once, seals were made with natural fibres such as felt and leather. Now, except for a few applications, these have been replaced with synthetics and new, advanced materials are making their mark.  
Nitrile (synthetic rubber): This is the most commonly-used material. It is low cost and has good low-temperature capabilities. It does tend to harden at high temperatures, over 105 deg C.  
Fluoroelastomer: These include Viton(R) and Fluorel(R). They are resistant to high temperatures and generally show good chemical resistance. Generally, in industrial markets, if nitrile does not work, fluoroelastomers are the next step.  
**Polyacrylate:** It has fair chemical and high-temperature resistance. It shows moderate to poor wear resistance and does not have good low-temperature flexibility.

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L2 ANSWER 54 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 94:579756 PROMT  
TI Influence of defoamers on the efficiency of waterborne coating systems.  
AU Heilen, Wernfried; Klocker, Otto; Adams, Jay  
SO The Journal of Coatings Technology, (Feb 1994) Vol. 66, No. 829, pp. 47(7).  
ISSN: ISSN: 0361-8773.  
PB Federation of Societies for Coatings Technology  
DT Newsletter  
LA English  
WC 3968  
\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*  
AB INTRODUCTION

L2 ANSWER 55 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 94:461448 PROMT  
TI DEINKABILITY OF WATERBORNE FLEXO INKS BY FLOTATION  
SO Pulp & Paper Canada, (Aug 1994) pp. 28.  
ISSN: 0316-4004.  
LA English  
WC 3163  
\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*  
AB BY C. ACKERMANN, H.-J. PUTZ, L. GOTTSCHING

FOR OVER 30 YEARS, waterborne inks have been used in rotogravure and flexo printing. They are commonly used in flexo printing of corrugated containers, solid board, bags and sacks as well as in rotogravure printing of gift wrap or wallpaper. In all of these applications, waterborne ink systems contribute to reduced investment costs. This is because explosion-proofed equipment as well as the severe standards in the German 'Technical Guideline Concerning Exhaust Air Management', which are required for solvent-based inks, can be avoided in printing shops if the shops use waterborne inks. Indeed, waterborne inks are permitted to be used without installing exhaust air recovery systems based on thermolysis, catalysis or absorption. Moreover, when waterborne inks are substituted for solvent inks they present an attractive ecological approach for many printing shops.

Deinkability is of no concern when using waterborne inks on packaging materials such as bags and sacks or on wallpaper, because such products are not recovered and reused to manufacture deinked pulp. However, when waterborne flexo printing was introduced for newsprint, poor deinkability was offset by additional benefits such as: reduced investment costs compared to offset printing; reduced operating costs; less waste during printing press start-up; less rub-off and print-through than offset.

For the very first time, questions about the deinkability of such printed matter have been raised in Europe and particularly in Germany. Here the apprehension about deinkability of waterborne flexo inks and their future application led to the foundation of INGEDE (International Research Foundation - Deinking Technology) in 1989. This foundation supports intensive research into deinking and promotes recycling by deinking to the public.

When poor deinkability of products printed with waterborne inks was first noticed, there were misunderstandings between European and overseas findings because the behavior of waterborne ink is different in flotation and wash deinking. Nowadays, it is well known that the deinkability of waterborne inks is much more effective in wash deinking than in flotation deinking.

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L2 ANSWER 56 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 93:650786 PROMT  
TI Ecological problems of wet processing  
SO Leather, (May 1993) pp. 32.  
ISSN: 0023-9739.

LA English  
WC 1499

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB It is usually the elimination of sulphide **contamination** from liming and **chromium** emissions from the tannage that are at the centre of ecological discussions in the leather industry. Now, however, other aspects of leather production are the focus of attention which also contribute to the pollution of waste water although on a smaller scale. Therefore, the following ecological problems of wet processing have been pointed out and proposals made to solve these problems.

From today's point of view the following problems appear in wet processing:

Washing out of unfixed **chromium**, especially in the retannage bath

Use of paraffin chlorosulphonates as synthetic fatliquoring agents  
Use of alkylphenol ethoxylates as emulsifying agents for fatliquoring agents and in surfactants

Chemical oxygen demand (COD) and biological oxygen demand (BOD) as well as the biodegradability of the substances existing in the residual floats  
The most urgent problem is the **chromium** emissions caused by the washing out of unfixed substances.

In order to achieve the required limit values in the waste water a treatment of the wet processing float is necessary.

One way is precipitation as **chromium** hydroxide followed by filtration. The latest technological development in this case is the adjustment of the pH to about 8.0 with calcium oxide followed by the addition of coagulants consisting of a metal salt, eg aluminium or iron, and a long chain **polyacrylate**. A flake, which can be easily filtered, develops.

However, this development requires additional investments for collecting vessels and above all for the filter press. Furthermore, **chromium** containing sewage sludge is obtained, which cannot be reprocessed due to its high content of organic contaminants and, therefore, this leads to dumping costs.

For this reason we have made it a priority to develop a procedure for the wet dressing of chrome tanned leather with which the amount of washed out **chromium** can be reduced drastically.

Table 1: Comparison of Cr 34 content in residual float with and without polymer fixation; Fig. 1: time and pH values in stages of the shoe upper leather process; Fig. 2: time and pH values in shoe upper leather process with **polyacrylates**; Tables 2 and 3: **chromium** content in the neutralising float depending on **polyacrylate** used; Table 4: **chromium** content of neutralising float.

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L2 ANSWER 57 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 93:830582 PROMT

TI Quenching technology - from 'black art' to advanced science  
SO Metallurgia, (Aug 1993) pp. 266.

ISSN: 0141-8602.

LA English

WC 1559

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB As a world leader in quenchant technology, Houghton Vaughan has continually strived to remove the mystery from the heat-treatment process. Historically regarded pretty much as a 'black art', the quenching operation is an integral stage of manufacturing and has been developed by specialists such as Houghton Vaughan into a sophisticated science. Here, Phil Law(\*) considers the use of advanced polymer quenchants and particularly the way these products can improve control of distortion in the heat-treatment process.

Polymer technology represents huge potential to take quenching science into previously unexplored areas and Houghton Vaughan's ongoing R&D programmes will ensure that products which are already at the forefront will be continuously improved.

The huge potential of polymer quenchants is ensuring their continual development - certainly at Houghton Vaughan. Much of present development concerns environmental considerations such as longer life, lower maintenance, greater safety, and ease of disposal, all of which are expected to figure more strongly in quenchant preferences. When these are coupled with the significant improvements in polymer performance, it is clear that this area of research and development is likely to bear fruit for some time to come.

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L2 ANSWER 58 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1994:79530 CAPLUS

DN 120:79530

TI Decreasing the discoloration of electrophoretic coatings in baking by addition of heat stabilizers

IN Fobbe, Helmut; Bruecken, Thomas

PA BASF Lacke und Farben A.-G., Germany

SO Ger. Offen., 7 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4139126	A1	19930603	DE 1991-4139126	19911128
	WO 9311197	A1	19930610	WO 1992-EP2545	19921106
	W: BR				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
	EP 614479	A1	19940914	EP 1992-923259	19921106
	EP 614479	B1	19951102		
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
	BR 9206827	A	19951107	BR 1992-6827	19921106
	AT 129734	E	19951115	AT 1992-923259	19921106
	ES 2082518	T3	19960316	ES 1992-923259	19921106
PRAI	DE 1991-4139126		19911128		
	WO 1992-EP2545		19921106		
AB	The post-baking discoloration is decreased by addn. of 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate esters with polyols to transition metal ion (e.g., Fe ion)-contaminated electrophoretic compns. for deposition of cationic amine-modified epoxy resins or cationic polyacrylates with blocked (cyclo)aliph. polyisocyanate crosslinkers.				

L2 ANSWER 59 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 91:568012 PROMT

TI Compound testing on MDR2000 rheometer

SO Rubber & Plastics News, (28 Oct 1991) pp. 18.

ISSN: 0300-6123.

LA English

WC 2041

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB Second of two parts. The first part appeared in the Oct. 14 issue.

By Patrick J. DiMauro Monsanto Co. Instruments and Equipment Group

In the past, with only an oscillating disc rheometer (ODR) available for cure characterization of materials, testing of special materials was limited. If the material had high adhesion to the metallic dies or rotor present in the ODR system, it might take as much time to clean the system as to run the test itself. In addition, liquids and powders could not be tested unless specially adapted upside-down dies were used. With the introduction of the MDR2000 rheometer (moving die or rotorless design), a new world of testing was made possible. By using mylar film to protect the die surfaces and encapsulate the sample, it is now possible to evaluate just about any thermoset material, whether in liquid, powder or pelleted form. Because of the heating system employed, rapid temperature changes can be easily made as well.

This paper has discussed some of the special materials tested on the MDR2000 rheometer since its introduction.

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L2 ANSWER 60 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1992:22394 CAPLUS

DN 116:22394

TI A detergent resin composition for cleaning molding machines

IN Obama, Kenjiro; Yamada, Kentaro; Fujii, Hiroyuki

PA Chisso Corp., Japan

SO Eur. Pat. Appl., 8 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 432585	A2	19910619	EP 1990-122841	19901129
	EP 432585	A3	19911127		
	EP 432585	B1	19970212		
	R: BE, DE, FR, GB, IT, NL				
	JP 03182535	A2	19910808	JP 1989-322435	19891212
	JP 07068552	B4	19950726		
	CA 2031155	AA	19910613	CA 1990-2031155	19901129
	CA 2031155	C	19950207		
	US 5108645	A	19920428	US 1990-620832	19901203
PRAI	JP 1989-322435		19891212		

AB The title compn. contains a styrene resin 50-95, poly(Me methacrylate) (I) 0.1-15, a neutral salt of a sulfonic acid 2-30, and basic Mg carbonate, Mg(OH)2, Al(OH)3, and/or ZnCO3 0.1-10% and is useful for cleaning the inside surfaces of machines used for the molding of vinyl chloride resins, vinylidine chloride resins, chlorinated polyethylene, etc. A mixt. of polystyrene 3600, I 600, Na dodecylbenzenesulfonate 400, basic Mg carbonate 300, polyethylene wax 50, and Mg stearate 50 g was fed into an extruder contaminated with rigid PVC contg. carbon black to clean the extruder.

L2 ANSWER 61 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:431077 CAPLUS

DN 115:31077

TI Sorption fabric and its production

IN Kabela, Josef; Prochazka, Hubert; Kucera, Frantisek; Novosad, Josef;  
Kouril, Jiri; Jirasek, Vladimir

PA Czech.

SO Czech., 4 pp.  
CODEN: CZXXA9

DT Patent

LA Czech

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CS 265847	B1	19891114	CS 1988-3136	19880510
PRAI	CS 1988-3136		19880510		

AB Fabrics or nonwovens from synthetic or mineral fibers, impregnated with a mixt. (A) contg. hydrated Sb2O5 and/or Ni2Fe(CN)6 or Cu2Fe(CN)6, acrylate binder, and acrylate polyelectrolyte or thickener, are useful as selective sorption filters for gases and liqs., esp. suitable for decontamination of radioactive waters. Thus, a 42-g/m<sup>2</sup> web of 60:40 blend of 1.7-tex and 4.4-tex polyester staple fibers was bonded (38 g/m<sup>2</sup>) with an acrylate binder on 2 sides, impregnated with A mixt., and dried to give a sorption material (230 g/m<sup>2</sup>) contg. Ni2Fe(CN)6 or Cu2Fe(CN)6 100, acrylate binder 42, and polyelectrolyte 8 g/m<sup>2</sup>.

L2 ANSWER 62 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1989:217136 CAPLUS

DN 110:217136

TI Expanded plastics for gasifying foam patterns in casting molds

IN Moll, Norman Glenn; Johnson, David Richard

PA Dow Chemical Co., USA

SO PCT Int. Appl., 70 pp.  
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8901010	A1	19890209	WO 1988-US433	19880211
	W: AU, BR, JP, KR, NO				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	CA 1302647	A1	19920602	CA 1988-558587	19880210
	AU 8814289	A1	19890301	AU 1988-14289	19880211
	AU 624326	B2	19920611		
	EP 317042	A1	19890524	EP 1988-301154	19880211
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	JP 02501660	T2	19900607	JP 1988-502289	19880211
	BR 8807636	A	19900807	BR 1988-7636	19880211
	US 4983640	A	19910108	US 1988-283332	19881212
	US 4929645	A	19900529	US 1989-429955	19891030
	NO 9000363	A	19900326	NO 1990-363	19900126
	US 5051451	A	19910924	US 1990-475512	19900206
	US 5053437	A	19911001	US 1990-608131	19901101
PRAI	WO 1987-AU1840		19870728		
	US 1988-149288		19880128		
	US 1986-890036		19860728		
	WO 1987-US1840		19870728		
	WO 1988-US433		19880211		
	US 1988-283332		19881212		
	US 1989-429955		19891030		
	US 1990-475512		19900206		

AB A rigid foam for gasifying mold patterns is manufd. from alkyl acrylate polymers showing an expansion vol. ratio of .gtoreq.60 with good stability for .gtoreq.30 min. The preferred monomer is Me methacrylate, and is polymd. in mixts. with hydroquinone and/or methylhydroquinone as an inhibitor. The d. of rigid foam is 0.7-5.0 lb/ft<sup>3</sup>. The patterns are used to cast low-C steel or stainless steel without C contamination. Thus, molten martensitic stainless steel contg. 0.05% C was cast into a

mold contg. a foam pattern (d. 1.1-1.9 lb/ft<sup>3</sup>); local C pickup was .1toreq.0.14% and no C segregation was noted. The mixt. for manuf. of the foam pattern contained water 3152, Me methacrylate 2405, F-113 chlorofluorethane 1063, carboxymethyl methylcellulose 16.71, K2Cr207 3.79, tert-Bu peroctoate 5.51, tert-Bu perbenzoate 4.69, CBr4 (as chain transfer agent) 11.34, divinylbenzene 1.76g, and an inhibitor for a blowing vol. ratio of .gtoreq.60.

L2 ANSWER 63 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN  
AN 1987:481686 CAPLUS  
DN 107:81686  
TI The behavior of polymer quenchants  
AU Hilder, Nick A.  
CS Wolfson Heat Treat. Cent., Aston Univ., Aston Triangle/Birmingham, B4 7ET, UK  
SO Heat Treatment of Metals (1987), 14(2), 31-46  
CODEN: HTRMBS; ISSN: 0305-4829  
DT Journal  
LA English  
AB The effects of bath concn., agitation, temp., aging, and **contamination** with oil, NH<sub>3</sub>, and/or salts on the cooling rate of com. aq. polymer quenching soln. were evaluated. Polyalkylene glycol, poly(vinylpyrrolidone), and **polyacrylate** were tested and the control techniques, dragout losses, and quenching response as to hardness and residual stress for a 0.45% C steel were considered. The cooling performance is intermediate between that of quench oils and water, with the **polyacrylate** similar to oil. With increasing polymer concn. and temp. the cooling rate decreases due to the formation of a stable, insulating polymer-rich film, whereas an increase in agitation decreases the film stability resulting in increased cooling rate. **Contamination** with salts and decreasing the mol. wt. of the polymers lead to an increased cooling rate due to decreased viscosity (kinematic).

L2 ANSWER 64 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN  
AN 1986:504687 CAPLUS  
DN 105:104687  
TI Manufacture of laminar battery  
IN Hino, Yoshihisa; Takayanagi, Hiroyuki; Yoshioka, Michie  
PA Fuji Electrochemical Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61093554	A2	19860512	JP 1984-214154	19841015
PRAI	JP 1984-214154		19841015		

AB A gel-type anode of a laminar battery is prep'd. by injecting an electrolyte to a slurry of an anode-active material and a binder coated on a support sheet in a battery. Thus, a nonwoven polypropylene sheet coated on 1 side with a slurry of Zn-Hg 100, Na **polyacrylate** 5, and water 40 wt. parts; dried at 60.degree.; laid in an anode container; and injected with 35% KOH to form a gel-type anode was assembled with a separator and a MnO<sub>2</sub>-graphite cathode, and sealed to form a battery. The placing of a dried sheet into the anode container prevents the **contamination** of the sealing surface of the container and provides reliable sealing of the battery.

L2 ANSWER 65 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN  
AN 1984:157937 CAPLUS  
DN 100:157937  
TI Gelled plastisol adhesives  
IN Herold, Julius; Geisen, Ingeborg

PA Henkel K.-G.a.A., Fed. Rep. Ger.  
 SO Ger. Offen., 13 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3229656	A1	19840209	DE 1982-3229656	19820809
	EP 102523	A1	19840314	EP 1983-107551	19830801
	EP 102523	B1	19860604		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	AT 20245	E	19860615	AT 1983-107551	19830801
	JP 59051919	A2	19840326	JP 1983-142000	19830804
	JP 04004333	B4	19920128		
	ZA 8305811	A	19840425	ZA 1983-5811	19830808
	US 4525234	A	19850625	US 1984-643090	19840821
PRAI	DE 1982-3229656		19820809		
	EP 1983-107551		19830801		
	US 1983-519828		19830802		
AB	PVC [9002-86-2] or poly(Me methacrylate) [9011-14-7] is mixed with plasticizers, a copolymer of vinyl acetate and a monomer such as ethylene or H2C:CHCl, various additives, and optionally a polyfunctional monomer such as trimethylolpropane trimethacrylate (I) [3290-92-4], and a peroxide. The mixt. is gelled to give a material which adheres to the surfaces of oil-contaminated or clean steel, electrocoated steel, etc. Thus, a mixt. of PVC 15.8, 10:90 vinyl acetate-vinyl chloride copolymer [9003-22-9] 3.8, bis(methylcyclohexyl) phthalate 49.0, CaO 2.0, BaSO4 23.2, I 5.0, cumene hydroperoxide 0.2, and tribasic lead sulfate 1.0 kg was cast to form a 2-3 mm layer and gelled at 100.degree. during 10 min to give a material which was placed between sheets of electrocoated steel and heated to 170.degree., forming a bond having tensile shear strength 160 N/cm2.				

L2 ANSWER 66 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN  
 AN 1984:408606 CAPLUS  
 DN 101:8606  
 TI Can effluent **contamination** with sizes be reduced in an economical way?  
 AU Ruettiger, Wilhelm; Schenk, Wolfgang; Wuerz, Albrecht  
 CS BASF A.-G., Ludwigshafen/Rhein, Fed. Rep. Ger.  
 SO Schriftenreihe des Deutschen Wollforschungsinstitutes (Technische Hochschule Aachen) (1984), 93(Vortr. Anlaesslich Gemeinsamen Tag. Aachener Textilforschungsinst., 10th, 1983), 18-37  
 CODEN: DWTSDZ; ISSN: 0170-6322  
 DT Journal  
 LA German  
 AB Special **polyacrylate** sizes which are chem. and thermally stable are used, are recovered in high yield, and can be reused in the sizing process. The tech. and economic consequences for the weaver and finisher are discussed. This process **leads** to a great redn. in wastewater loading.

L2 ANSWER 67 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN  
 AN 1982:407288 CAPLUS  
 DN 97:7288  
 TI Synthetic resin compositions having good processability  
 PA Adeka Argus Chemical Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 57010647 A2 19820120 JP 1980-84715 19800623  
 JP 63051186 B4 19881013  
 PRAI JP 1980-84715 19800623  
 AB Polymers are mixed with polyhydric alc.-modified oligomers such as poly(Bu acrylate) dipentaerythritol dioleate ester (I) [82115-97-7] (BuOH eliminated during prepn.) to improve processability. Thus, a compn. of Geon 103EP [9002-86-2] 100, DOP 60, an epoxidized soybean oil 2, Ba nonylphenate 0.5, Zn toluate 0.5, octyl di-Ph phosphite 0.5, and I (a slip agent) 0.3 part had initial yellowing 0.08, good transparency, thermal stability at 175.degree. 95, adhering to rolls after 46 min, very good release properties, no **contamination** on rolls compared with 0.22, good, 75, 22, fair, and much, resp., when using 2-ethylhexyl acrylate oligomer in place of I.

L2 ANSWER 68 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1977:164535 CAPLUS

DN 86:164535

TI Magnetite in the thermal decomposition of **iron(III) acrylate** and **iron(III) polyacrylate**

AU Wolski, W.; Talarczyk, T.

CS Inst. Chem., Adam Mickiewicz-Univ., Poznan, Pol.

SO Journal of Thermal Analysis (1976), 10(3), 383-9

CODEN: JTHTEA9; ISSN: 0368-4466

DT Journal

LA German

AB The processes of thermal decompn. of Fe(III) acrylate and Fe(III) **polyacrylate** were studied by using anal., magnetic, and x-ray methods. For thermal decompn. in the absence of air, ferromagnetic properties are obsd. at 224.degree. in the case of Fe(III) acrylate, whereas in the decompn. products of Fe(III) **polyacrylate** traces of a ferromagnetic phase can be detected only at temps. >240.degree.. An abrupt rise of magnetization occurs at 300-340.degree. for Fe(III) acrylate and at 300-440.degree. for Fe(III) polacrylate. According to x-ray investigations, the phase responsible for the ferromagnetic properties is magnetic. At >500.degree. the magnetite is **contaminated** with .alpha.-Fe. The same **contamination** occurs in the Fe(III) **polyacrylate** products, but the decompn. temp. required must be >600.degree..

L2 ANSWER 69 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1976:66933 CAPLUS

DN 84:66933

TI Avoiding supersaturation of electrolyte solutions with one or more of the impurities arsenic, **antimony**, and **bismuth**, in the electrolytic refining of nonferrous metals, especially **copper**

IN Schulze, Reinhold

PA Norddeutsche Affinerie, Fed. Rep. Ger.

SO Ger. Offen., 19 pp. Addn. to Ger. Offen. 2,004,410.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2422973	A1	19751204	DE 1974-2422973	19740513
	US 3988225	A	19761026	US 1975-576256	19750512
PRAI	US 1973-352079		19730417		
	DE 1974-2422973		19740513		

AB The title method for removal of impurities from electrolytes in electrorefining processes esp. for the treatment of highly **contaminated** Cu [7440-50-8] anodes, is described. These impurities (As [7440-38-2], Sb [7440-36-0], and Bi [7440-69-9]) can be removed partially or completely from the electrolyte by bringing it into contact with a high surface-area chemisorption material which is difficultly sol. and can be used in H<sub>2</sub>SO<sub>4</sub> solns. (e.g. stable metal oxide

or hydroxide). As chemisorption materials, MnO<sub>2</sub> [1313-13-9] or Mn(OH)<sub>4</sub> [12207-67-9] and/or SnO<sub>2</sub> [18282-10-5] may be used. These materials are applied from a soln. or suspension, which contains on the 1 hand a dispersion of a water-insol. binding material based on an acryl ester as a pure polymerizate or mixed polymerizate with vinyl esters, styrene, vinyl ether or vinylidene chloride, and on the other hand, as binder for the chemisorption material, a flocculation agent based on **polyacrylate**, polyacryl ester, acryl ester mixed polymerizate, polyacrylamide or polyethylenimine and likewise contains sol. or gas-forming material to form pores in the coating contg. the chemisorption substance, which can be regenerated with acids such as H<sub>2</sub>SO<sub>4</sub>.

L2 ANSWER 70 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN  
 AN 1974:112507 CAPLUS  
 DN 80:112507  
 TI Removal of ions from wash water by ion exchange  
 IN Krauch, Carl H.; Sanner, Axel; Jakobi, Guenter; Schmadel, Edmund  
 PA Badische Anilin- und Soda-Fabrik A.-G.  
 SO Ger. Offen., 40 pp.

CODEN: GWXXBX

DT Patent  
 LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2307923	A1	19731011	DE 1973-2307923	19730217
	DE 2307923	C3	19781005		
	CH 584284	A	19770131	CH 1972-4825	19720330
	IT 981317	A	19741010	IT 1973-21494	19730312
	CA 994203	A1	19760803	CA 1973-167384	19730328
	NL 7304401	A	19731002	NL 1973-4401	19730329
	AT 7302775	A	19750515	AT 1973-2775	19730329
	AT 328055	B	19760310		
	US 3955920	A	19760511	US 1973-346626	19730330

PRAI CH 1972-4825

AB A porous, fibrous, water insol. cation exchanger is added to washing powders as a substitute for phosphates, strong alkalies, N-contg. sequestering agents or polyanionic polymers whose use produces waste waters that have an altered pH, are not biodegradable, or are phosphate contaminated. Thus, a mixt. of triethylene glycol diacrylate 1, acrylic acid 2.5, and benzoin isopropyl ether 0.05 in glacial AcOH 30 is mixed with cooling with polyester-polyamide mixed fibers 2 parts. The resultant monomer is spread in a sheet 85 g/m<sup>2</sup>, cooled to -15.degree., and irradiated with a Hg vapor lamp to polymerize the product. The polymer is washed with water and air dried. It has a capacity of 5.5 mequiv./g. The yield is .apprx.71%.

L2 ANSWER 71 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 11  
 AN 1971:142948 CAPLUS

DN 74:142948

TI Ion exchange for drinking water, food industry, and the pharmaceutical industry

AU Kuehne, Guenter

CS Farbenfabr. Bayer A.-G., Leverkusen, Fed. Rep. Ger.

SO Modern Kemi (1971), (1-2), 24-7

CODEN: MOKEAM; ISSN: 0047-7710

DT Journal

LA Swedish

AB The use of weak and strong anionic and cationic, and macroporous exchangers based on polystyrene or **polyacrylate** in water softening, carbonate hardness removal, neutralization, decontamination (radioactive ions), desalting, adsorption, decolorization, and acid, Fe, and heavy metal removal is discussed.

L2 ANSWER 72 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN  
AN 1962:65913 CAPLUS  
DN 56:65913  
OREF 56:12614h-i,12615a-c  
TI Adhesive for metals  
IN Boder, Erich; Koert, Hubert  
PA Deutsche Gold- und Silber-Scheideanstalt vorm. Roessler  
DT Patent  
LA Unavailable

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 1123419		19620208	DE	19600927

AB The metal surface was first homogeneously treated with a finely divided hardening agent, then coated with the adhesive contg. an accelerator. Another less suitable procedure consisted in treating the metal with an accelerator and adding the hardening agent to the adhesive compn. Such a 2-stage procedure was easier than those using 2-component systems, and saved adhesive compn. Hardening agents such as lauroyl, 2,4-dichlorobenzoyl, p-chlorobenzoyl peroxides, or Bz2O2 were used with an accelerator such as tertiary amines contg. at least 1 aromatic radical and b. >230.degree. (tetramethyldiaminodiphenylmethane, diethylol-p-toluidine diacetic acid ester, N-tert-butylol-N-methylaniline), or N-dialkylolamines contg. at least 1 aromatic radical (diethylol-p-toluidine, diisopropylol-m- or p-toluidine, dibutylol-p-toluidine). When the metals to be treated had to be stored, addn. of a few per cent of a sol. polymer (polystyrene or polymethacrylate) to the hardening agent (or accelerator) soln. improved the fixation of the hardening agent (or accelerator) on the metal surface and avoided contamination by impurities. Brass or Cu sheets treated with a soln. contg. 5% polystyrene and 5% Bz2O2 in CH2Cl2 showed no corrosion after 8 weeks, and no decrease in the catalytic activity of Bz2O2. Suitable binders for the manuf. of adhesives were those described in Ger. 1,014,254 (CA 54, 11568a) or in Fr. 1,140,814. Thus, metal bands (100 .times. 20 .times. 2 mm.) were mech. cleaned, treated with a soln. of 5% polystyrene and 5% Bz2O2 in CH2Cl2, dried and treated with an adhesive compn. consisting of prepolymer (Me methacrylate 81, styrene 15, polychloroprene 4, azodiisobutyronitrile 0.035% by wt., viscosity 62,600 cp.) 81.3, unsatd. polyester resin 3, paraffin 0.2, Me methacrylate 15, and diisopropyl-p-toluidine 0.5% by wt. After 1 day at room temp., the resistance was 510 kg. for AlCuMg-F44, 525 kg. for steel, and 410 kg. for Cu.

L2 ANSWER 73 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1962:404704 CAPLUS

DN 57:4704

OREF 57:1037f-i

TI Synthesis and properties of poly(acrylic acid) salts of polyvalent metals

AU Sikorski, R.T.; Rabek, T. I.; Skwara, J.

CS Tech. Hochschule, Wroclaw, Pol.

SO Plaste und Kautschuk (1961), 8, 591-3

CODEN: PLKAAM; ISSN: 0048-4350

DT Journal

LA Unavailable

AB Pb, Mn, Co, and Al salts of poly(acrylic acid) were prep'd. by pptg. aq. solns. of Na polyacrylate with aq. solns. of the multivalent metal nitrates. The salts were insol. in H2O and all common solvents, but swelled slightly in H2O. The insol. was probably due to internal reticulation. The salts were hard substances of conchoidal fracture and intense color (Co violet, Mn yellowish green, Pb green, Al white). In acids (pH 1) and alkalis (pH 10), they decompd. In order to obtain better soly., an attempt was made to prep. the metal salts of a partial ester of poly(acrylic acid). K polyacrylate was made to react with isoPrBr, promoting formation of ester salts of the general structure [CH2CH(CO2K)CH2CH(CO2CHMe2)]n, a yellow substance that forms viscous gels with H2O. By reaction of this gel with the corresponding metal salts, ppt. were formed which were similar to the straight polyacrylic salts but

had greater affinity for org. solvents, probably because of reduced internal reticulation. Upon use of such salt solns. as driers in oleoresinous varnishes, it was found that, at equal metal content, their efficiency was much inferior to resinate driers. The Al polyacrylate was useful as a leveling agent in nitrocellulose lacquers. It was useful as catalyst in the chlorination of polyisobutylene with  $SO_2Cl_2$ , leading to light-colored chlorinated polymers free of contaminating ions.

L2 ANSWER 74 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN  
AN 1960:121901 CAPLUS  
DN 54:121901  
OREF 54:23294a-c  
TI The effect of lead and copper naphthenates on the destruction of polymers in thickened lubricating oils  
AU Kaplan, S. Z.; D'yakov, V. K.; Chuprik, N. I.  
SO Khimiya i Tekhnologiya Topliv i Masel (1960), 5(No. 7), 38-42  
CODEN: KTPMAG; ISSN: 0023-1169  
DT Journal  
LA Unavailable  
AB cf. CA 53, 8702f. In a continuation of earlier work on the depolymerizing effects of metallic salts of org. acids on polymeric lubricating oil additives, the effect of Pb and Cu naphthenates on the polymethacrylate (I), Vinipol (II), and polyisobutylene (III) in turbine oil 22 L was studied. It was found that Pb naphthenate destroys all of these polymers, esp. I, in the presence of O or air. The effect of Cu naphthenate on I is much less pronounced; it even retards to a slight degree the breakdown of II. In 3-stage heating to 150.degree. in the absence of metal naphthenates, no destructive action on I or III takes place even in an O atm.; II breaks down in an O atm., and to a lesser degree in air, but is unchanged in a N atm. Sources of the contaminating metal may be corroded engine surfaces and  $PbEt_4$ .

L2 ANSWER 75 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN  
AN 1960:61259 CAPLUS  
DN 54:61259  
OREF 54:11810g-i,11811a-d  
TI Analytical methods for trace elements in metals by using radioactive isotopes. VI. Analytical method for radioactive nuclides contaminating the surface of several metals  
AU Amano, Hiroshi  
CS The Research Institute for Fe, Steel, and other Metals  
SO Sci. Repts. Research Inst. Tohoku Univ. Ser. A (1959), 11(No. 6), 458-65  
DT Journal  
LA Unavailable  
AB cf. CA 54, 10637i. A metal-disc specimen, 1.5 mm. thick by 25 mm. diam., was exposed on 1 side to a radioactive test soln. The disk was removed, washed with approx. 150 ml. of  $H_2O$ , dried by blotting with filter paper, and the surface radioactivity counted. It was electrolyzed for 1 min. at 3 amp. with a 10-mm. diam. Pt spiral cathode in a small beaker contg. 20 ml. of 0.5N  $H_2SO_4$ . To sep. the radioactive nuclides, the soln. was heated to boiling and 1 mg. each of Sr, Nb, Zr, Cs, and La carriers were added. Then, 3N NaOH was added dropwise in the presence of a few drops of satd. Br water. The ppt. formed was washed with  $H_2O$ , returned to the original beaker, and dissolved in 10 ml. of HCl contg. a few drops of 30%  $H_2O_2$ . The soln. was evapd. nearly to dryness and 20 ml. of 6N HCl added. Satd.  $SO_2$  soln. was added, the mixt. was boiled with small amts. of filter-paper pulp, and the niobic acid filtered off. The filtrate was dild. with an equal vol. of  $H_2O$ ,  $(NH_4)_2HPO_4$  soln. was added, and the mixt. was boiled a few min. Zr phosphate was filtered off. The filtrate was heated to boiling, 10 ml. of 10% oxalic acid soln. was added, and the mixt. was neutralized with  $NH_4OH$ , with methyl orange as indicator. After cooling, 10 ml. of alc. was added, and La oxalate, contg. Y90, was filtered off. To the filtrate was added 10 ml. of 10%  $NH_4$  oxalate, and the soln. was boiled. After cooling, 20 ml. of alc. was added. After standing for

several hrs., the Sr oxalate was filtered off. The filtrate was evapd. nearly to dryness, the residue dild. to 30 ml. with H<sub>2</sub>O, 2 mg. of Pb carrier (as nitrate) soln. and NH<sub>4</sub> sulfide soln. were added successively. PbS ppt., which collected Ru106, was filtered off. The filtrate was boiled with concd. HNO<sub>3</sub> to decomp. the NH<sub>4</sub> salt and S, and evapd. nearly to dryness. Ten ml. of 6N HClO<sub>4</sub> and 20 ml. of alc. were added, and the CsClO<sub>4</sub> was filtered after standing 1 hr. The radioactivity of each fraction was measured. Each value was divided by the sum of the values of all the fractions and expressed as %. The results were in good agreement with those detd. by ion-exchange methods. The radioactivity was measured with a decimal scaler combined with a .beta.-counting Geiger-Muller tube. The radioactive test soln. was the NO<sub>3</sub> soln. of fission products with pH adjusted to 1.4 with NH<sub>4</sub>OH. A Cu wire was soldered to 1 side of the specimen disk to act as electric conductor and mech. suspender. The disk was then worked into the end of a piece of **polymethacrylate** tubing, with the wire extending through the tube, in such manner that only the outside of the disk was exposed to the test soln. and the electrolyte during electrolysis.

L2 ANSWER 76 OF 77 NTIS COPYRIGHT 2003 NTIS on STN  
AN 1988(14):08745 NTIS Order Number: DE88004049/XAB  
TI Potential Problems Associated with Ion-Exchange Resins Used in the  
Decontamination of Light-Water Reactor Systems.  
AU Soo, P.; Adams, J. W.; Kempf, C. R.  
CS Brookhaven National Lab., Upton, NY.  
NR Sponsor: Department of Energy, Washington, DC. (004545000 0936000)  
DE88004049/XAB; BNL-NUREG-40470, CONF-8710111-16  
17p; 1987  
NC Contract(s): AC02-76CH00016  
DT Report  
CY United States  
LA English  
NTE 15. water reactor safety information meeting, Gaithersburg, MD, USA, 26  
Oct 1987.  
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orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield,  
VA, 22161, USA.  
NTIS Prices: PC A03/MF A01  
OS GRA&I8811; ERA1300  
AB During a typical **decontamination** event, ion-exchange resin  
beds are used to remove corrosion products (radioactive and  
nonradioactive) and excess **decontamination** reagents from waste  
streams. The spent resins may be solidified in a binder, such as cement,  
or sealed in a high-integrity container (HIC) in order to meet waste  
stability requirements specified by the Nuclear Regulatory Commission.  
Lack of stability of low-level waste in a shallow land burial trench may  
lead to trench subsidence, enhanced water infiltration and waste  
leaching, which would result in accelerated transport of radionuclides  
and the complexing agents used for **decontamination**. The  
current program is directed at investigating safety problems associated  
with the handling, solidification and containerization of  
**decontamination** resin wastes. The three tasks currently underway  
include freeze-thaw cycling of cementitious and vinyl ester-styrene  
forms to determine if mechanical integrity is compromised, a study of  
the corrosion of container materials by spent **decontamination**  
waste resins, and investigations of resin degradation mechanisms. (ERA  
citation 13:014708)

L2 ANSWER 77 OF 77 NTIS COPYRIGHT 2003 NTIS on STN  
AN 1998(19):05175 NTIS Order Number: N19980031513/XAB  
TI Ion Exchange Equilibrium and Kinetic Properties of **Polyacrylate**  
Films and Applications to Chemical Analysis and Environmental  
Decontamination. Final Report.

AU Tanner, S. P.  
 CS University of West Florida, Pensacola, FL. Dept. of Chemistry.  
 Sponsor: National Aeronautics and Space Administration, Washington, DC.  
 (062469015 U6640819)  
 NR N19980031513/XAB; NAS 1.26:206717, NASA/CR-97-206717  
 6p; 1997  
 NC Contract(s): NCC3-346  
 DT Report  
 CY United States  
 LA English  
 AV Order this product from NTIS by: phone at 1-800-553-NTIS (U.S.  
 customers); (703)605-6000 (other countries); fax at (703)605-6900; and  
 email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road,  
 Springfield, VA, 22161, USA.  
 NTIS Prices: PC A02/MF A01  
 OS GRA&I9816; STAR3608  
 AB One of the goals of the original proposal was to study how cross-linking  
 affects the properties of an ion exchange material (IEM) developed at  
 Lewis Research Center. However, prior to the start of this work, other  
 workers at LERC investigated the effect of cross-linking on the  
 properties of this material. Other than variation in the ion exchange  
 capacity, the chemical characteristics were shown to be independent of  
 the cross-linking agent, and the degree of cross-linking. New physical  
 forms of the film were developed (film, supported film, various sizes of  
 beads, and powder). All showed similar properties with respect to ion  
 exchange equilibria but the kinetics of ion exchange depended on the  
 surface area per unit mass; the powder form of the IEM exchanging much  
 more rapidly than the other forms. The research performed under this  
 grant was directed towards the application of the IEM to the analysis of  
 metal ions at environmental concentrations.

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	ENTRY	SESSION	
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L2 ANSWER 39 OF 77 CABA COPYRIGHT 2003 CABI on STN  
AN 2003:92424 CABA  
DN 20033063930  
TI Feasible biotechnological and bioremediation strategies for serpentine soils and mine spoils  
AU Prasad, M. N. V.; Oliveira Freitas, H. M. de; de Oliveira Freitas, H. M.  
CS Departamento de Botanica, Faculdade de Ciencias e Tecnologia da Universidade de Coimbra, 3000 Coimbra, Portugal.  
SO EJB, Electronic Journal of Biotechnology, (1999) Vol. 2, No. 1, pp. 1-16.  
many ref.  
Publisher: Universidad Catolica de Valparaiso. Valparaiso  
ISSN: 0717-3458  
CY Chile  
DT Journal  
LA English  
AB Reclamation of metalliferous areas is a priority field of biogeochemistry of trace elements. Ultramafic outcrops rich in **heavy metals** have been mapped in different parts of the world. **Heavy metals** are potentially cytotoxic, carcinogenic and mutagenic. Environment protection agencies and legislations insisting the mine operators to restore the mine spoils and tailings since the metal leachates have serious implications in production of healthy agricultural products. Hence, restoration of mine spoils, tailings and metalliferous soils is a challenging task for the well being of Humans. Synthetic and natural zeolites have been used as chelators for rapid mobility and uptake of metals from **contaminated** soils by plants. Use of synthetic chelators significantly increased Pb and Cd uptake and translocation from roots to shoots facilitating phytoextraction of the metals from low grade ores. Contrastingly, synthetic cross linked **polyacrylates**, hydrogels have protected plant roots from **heavy metals** toxicity and prevented the entry of metals into roots. However, application of these synthetics on large scale may not be a practical solution due to exorbitant costs. Therefore, introduction of metal tolerant wild plants to metalliferous soils, genetic engineering of plants for enhanced synthesis and exudation of natural chelators into the rhizosphere, improvement of the rhizosphere with the help of mycorrhiza and integrated management of the metalliferous ecosystem following the principles of phytoremediation are discussed in this paper.

L2 ANSWER 40 OF 77 PROMT COPYRIGHT 2003 Gale Group on STN

AN 1998:135294 PROMT  
TI Multiple Metal Cations Removed in Single Pass  
SO High Tech Separations News, (1 Mar 1998) pp. N/A.  
ISSN: 1046-039X.

LA English  
WC 450

\*FULL TEXT IS AVAILABLE IN THE ALL FORMAT\*

AB An advanced ion-exchange media removes multiple metal cations in a single pass, without the selectivity exhibited by typical ion exchange resins. This weak-acid exchanger's lack of discrimination results from its chelating ability for metals with an affinity for acetate-type functional groups. Also, unlike traditional ion-exchange resins, the new media adsorbs no sodium or calcium. Under development at NASA's Lewis Research Center since 1991, the Crystal 2100 ion-exchange media is now being manufactured and marketed by Somerfield Products, Ltd. (1840 Progress Ave., Columbus, OH 43207; Tel: 614/444-4881 or 888/691-4500, Fax: 614/444-4882, Email: eaglerock@nye.net). Somerfield currently produces Crystal 2100, a blend of **polyacrylate** and other proprietary polymers, in bead format. Once the bead is fully loaded, Crystal 2100 can be easily regenerated by removing the metals with a weak acid solution. The media can be regenerated and recycled many times over as it still maintains its high

rate of metal removal and structural stability. Other forms currently under development for all future fluid applications include fiber, film, and foam, as well as liquids for applying to mesh and other substrates--forms not possible with conventional ion exchange resins. Somerfield's general manager, Richard Anter (Tel: 440/333-5988), tells HTSN that the lack of calcium adsorption leaves more sites available for metal uptake. Anter estimates Crystal 2100's faster, higher metal-adsorbing capacity at about 3.3 lb./ft<sup>3</sup> as compared to a standard resin's 2.5 to 2.8 lb./ft<sup>3</sup> capacity. He cites material costs as in the \$150 to \$300 per pound range and notes the cost-effectiveness of the media, in that since Crystal takes all metals in a single pass, no need for separate columns or resins exists, thereby reducing operating costs, filtration time, and power consumption.

Solid results from EPA testing confirm ability of Crystal 2100 to remove inorganic cations from industrial, municipal, and natural waters to below permitted standards. In tests on **contaminated** industrial wash water containing 75 ppm each of **copper, cadmium, nickel, and zinc**, for example, Crystal 2100 produces the following results: **copper** and **nickel** reduced to 4 ppb and **cadmium** and **zinc** to 6 ppb.

Additional test data from Johns Hopkins and NASA confirm these results. In tests by Johns Hopkins and with the U.S. Navy, Crystal 2100 has been proven to be highly effective in seawater.

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L2 ANSWER 47 OF 77 CAPLUS COPYRIGHT 2003 ACS on STN  
AN 1997:692726 CAPLUS  
DN 127:320620  
TI Removal of **Copper** from Hydrocarbon Fuels Using Novel  
Azamacrocyclic Polymers  
AU Puranik, Dhanajay B.; David, Vikram A.; Morris, Robert E.; Chang, Eddie L.  
CS Naval Research Laboratory, Washington, DC, 20375-5348, USA  
SO Energy & Fuels (1997), 11(6), 1311-1312  
CODEN: ENFUEM; ISSN: 0887-0624  
PB American Chemical Society  
DT Journal  
LA English  
AB Novel **polymethacrylates** contg. pendant azamacrocyclic groups,  
with monomer structure I ( $x = 2, 6, 8$ ), were prep'd. and evaluated as  
chelating agents for selective removal of Cu contaminants in hydrocarbon  
fuels (esp. jet fuels). These chelating agents not only remove Cu  
contaminants to the sub-ppm level, but also do not **contaminate**  
the fuels that sol. chelating tend to do. Thus, JP-5 (jet fuel) was  
treated with a polymer with monomer structure I ( $x = 8$ ) to yield a fuel  
contg. 0.002 ppm Cu (compared with initially 20 ppm Cu).

L3 ANSWER 1 OF 7 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved.  
(2003) on STN

AN 2000:53535 AGRICOLA

DN IND22057565

TI Remediation of a long-term copper-contaminated **soil** using a **polyacrylate** polymer.

AU Varennes, A. de; Torres, M.O.

CS Instituto Superior de Agronomia, Lisboa, Portugal.

AV DNAL (S590.S68)

SO Soil use and management, Dec 1999. Vol. 15, No. 4. p. 230-232  
Publisher: Oxon, UK : CABI International.  
CODEN: SUMAEU; ISSN: 0266-0032

NTE Includes references

CY England; United Kingdom

DT Article

FS Non-U.S. Imprint other than FAO

LA English

AB We investigated whether a **polyacrylate** polymer could be used to remediate a **soil** which had been contaminated with copper for many years. Perennial ryegrass was grown in a loamy sand containing 230 mg ammonium-acetate-EDTA extractable Cu kg<sup>-1</sup> and amended with 0, 0.1 and 0.2% of polymer. Growth of perennial ryegrass was stimulated in the polymer-amended **soil**, especially in the **soil** with 0.1% of polymer. After plant growth for 177 days, the amount of water extractable copper present in the unamended **soil** was 17 times that of the original **soil**. In the **soil** amended with 0.1% of polymer the level of copper after plant growth was only 0.11 times the amount present in the unamended **soil**. When the **soil** was incubated with polymer in the absence of plants, the level of water extractable copper was not reduced. The polymer seems to compete with plants for copper, and to prevent the increase of copper in **soil** solution brought about by root exudates.